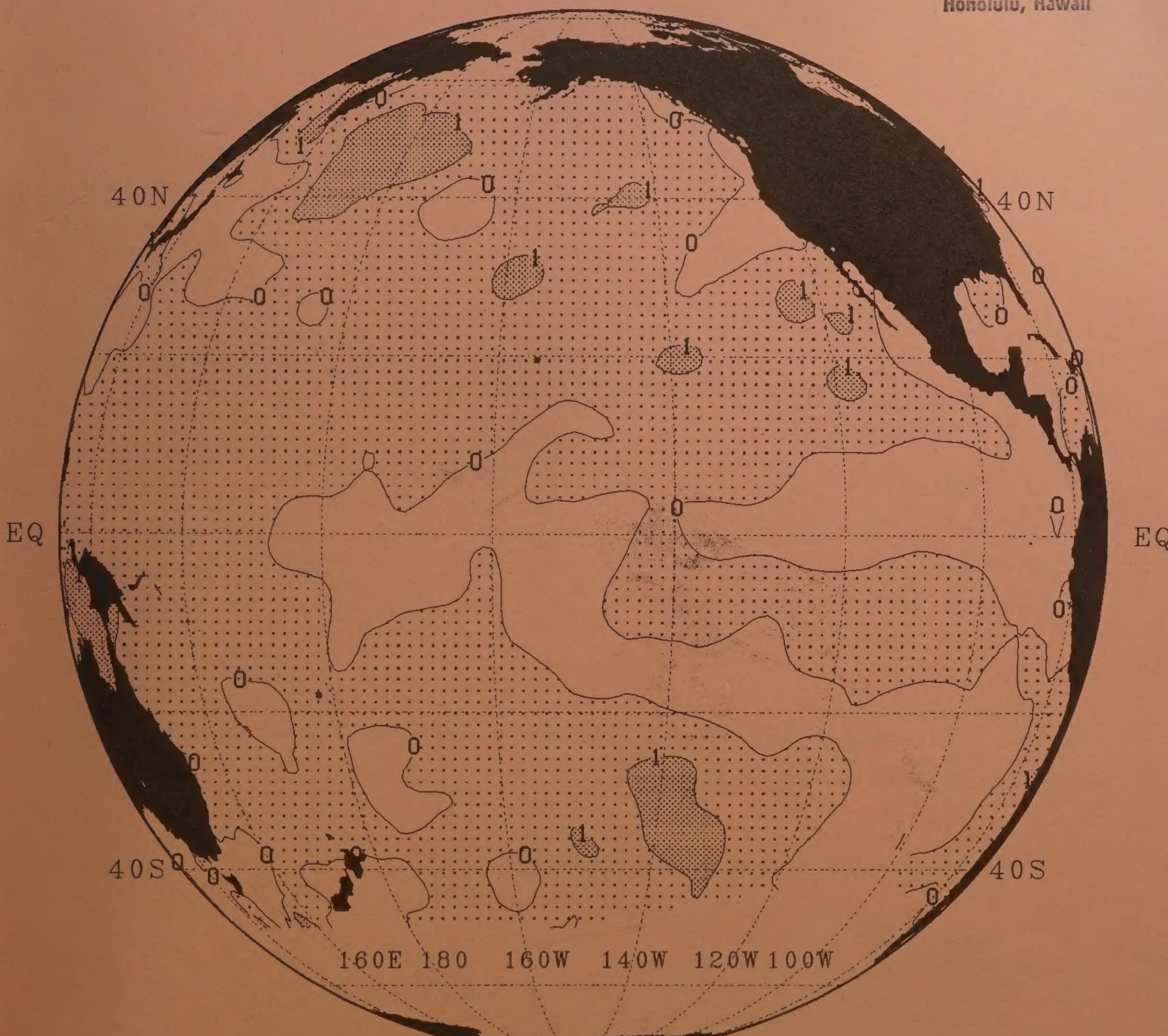
# 気象庁海洋月報



## Monthly Ocean Report

## August 1996 (No. 44)




Climate and Marine Department
Japan Meteorological Agency

気象庁 気候・海洋気象部

平成8年8月

気象庁海洋月報は、気象庁 気候・海洋気象部 海洋課で作成されています。

本月報に関する問い合わせは、

〒100　東京都千代田区大手町１-３-４　気象庁 気候・海洋気象部 海洋課まで。

電　話 (03) 3212-8341 (内線 5128、5129)

ＦＡＸ (03) 3211-3047

電子メール ocean@umi.hq.kishou.go.jp

Monthly Ocean Report is prepared by the Oceanographical Division, Climate and Marine Department, Japan Meteorological Agency.

Correspondence relating to this report may be directed to :

Hiroki Kondo
Director, Oceanographical Division
Climate and Marine Department, Japan Meteorological Agency
1-3-4 Ote-machi, Chiyoda-ku, Tokyo 100 Japan
Facsimile: +81-3-3211-3047
e-mail : ocean@umi.hq.kishou.go.jp

表紙は、1996年８月の太平洋の月平均海面水温偏差図です。

陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for August 1996 in the Pacific Ocean.

Areas of positive anomalies are shaded.

# 目　次


| | 図 | ページ |
|---|---|---|
| **海況の特徴 (1996年 8 月)** | | i-ii |
| D海域における海面水温及び偏差の緯度－時間断面図 | 図A | iii |
| **全球及び太平洋** | | |
| **エルニーニョ監視指数** | | |
| エルニーニョ監視指数 | 第1表 | 1-2 |
| 太平洋赤道域の海面水温偏差時系列図 | 1 | 3 |
| 太平洋月平均海面水位偏差時系列図 | 2 | 4 |
| 南方振動指数及び海面気圧偏差時系列図 | 3 | 5 |
| 月平均上層雲量指数時系列図 | 4 | 5 |
| 赤道域東西風指数時系列図 | 5 | 6 |
| **1996年 8 月の海況及び気象** | | |
| 海面水温 | | |
| 全球月平均海面水温図及び偏差図 | 6 | 7 |
| 表層水温 | | |
| 太平洋表層水温（深さ100m）図 | 7 | 8 |
| 太平洋20℃深度図及び偏差図 | 8 | 9 |
| 太平洋の赤道に沿う表層水温及び偏差の深度－経度断面図 | 9 | 10 |
| 海　流 | | |
| 太平洋ブイ流跡図 | 10 | 11 |
| 海面水位 | | |
| 太平洋海面水位偏差図（1996年 7 月） | 11 | 12 |
| 気　象 | | |
| 西太平洋月平均上層雲量分布図及び偏差図 | 12 | 13 |
| **海況及び気象の推移** | | |
| 海面水温 | | |
| 赤道に沿う海面水温及び偏差の時間－経度断面図 | 13-14 | 14-15 |
| 表層水温 | | |
| 太平洋赤道域の表層水温の時間－深度断面図 | 15 | 16 |
| 太平洋の赤道に沿う20℃深度及び偏差の時間－経度断面図 | 16 | 17 |
| 太平洋の北緯 6 度線に沿う海洋表層の貯熱量及び偏差の時間－経度断面図 | 17 | 18 |
| 太平洋の赤道に沿う海洋表層の貯熱量及び偏差の時間－経度断面図 | 18 | 19 |
| 太平洋の南緯 6 度線に沿う海洋表層の貯熱量及び偏差の時間－経度断面図 | 19 | 20 |
| 気　象 | | |
| 太平洋の赤道に沿う海面の風応力の東西成分及び偏差の時間－経度断面図 | 20 | 21 |
| **北西太平洋** | | |
| 北西太平洋旬平均海面水温図及び偏差図 | 21-23 | 22-24 |
| 北西太平洋月平均海面水温図及び偏差図 | 24 | 25 |
| 北西太平洋旬平均海面水温平年偏差時系列図 | 25 | 26 |
| 日本近海表層水温（深さ100m）図 | 26 | 27 |
| 北西太平洋海流図 | 27 | 28 |
| **測点分布図** | 28 | 29-30 |

# Table of Contents


| | Figure | Page |
|---|---|---|
| **Highlights (August1996)** | | i-ii |
| Time-latitude section of sea surface temperature anomalies in region D | Fig. A | iii |
| **Global and Pacific Ocean** | | |
| **El Niño Monitoring Indices** | | |
| Table of El Niño Monitoring Indices | Table-1 | 1-2 |
| Time Series of Equatorial Pacific SST Anomalies | 1 | 3 |
| Time Series of Sea Level Anomalies in the Pacific Ocean | 2 | 4 |
| Time Series of SOI, Sea Level Pressure Anomalies at Tahiti and Darwin | 3 | 5 |
| Time Series of High-Cloud Amount Index | 4 | 5 |
| Time Series of Zonal Wind Index | 5 | 6 |
| **Monthly Mean and Anomaly (August 1996)** | | |
| **Sea Surface Temperature (SST)** | | |
| SST and Anomalies in the Global Ocean | 6 | 7 |
| **Subsurface Temperature** | | |
| Subsurface (at the depth of 100m) Temperature in the Pacific Ocean | 7 | 8 |
| Depth of 20°C Isotherm and Anomalies in the Pacific Ocean | 8 | 9 |
| Depth-Longitude Sections of Temperature and Anomalies along the Equator in the Pacific Ocean | 9 | 10 |
| **Ocean Current** | | |
| Movements of Drifting Buoys in the Pacific Ocean | 10 | 11 |
| **Sea Level** | | |
| Sea Level Anomalies in the Pacific Ocean (July 1996) | 11 | 12 |
| **Atmospheric Conditions** | | |
| High-Cloud Amount and Anomalies in the Equatorial Pacific | 12 | 13 |
| **Long-term Variations** | | |
| **Sea Surface Temperature** | | |
| Time-Longitude Sections of SST and Anomalies along the Equator | 13-14 | 14-15 |
| **Subsurface Temperature** | | |
| Time-Depth Sections of Equatorial Pacific Subsurface Temperatures | 15 | 16 |
| Time-Longitude Sections of Depth of 20°C Isotherm and Anomalies along the Equator in the Pacific Ocean | 16 | 17 |
| Time-Longitude Sections of Ocean Heat Content and Anomalies along 6°N in the Pacific Ocean | 17 | 18 |
| Time-Longitude Sections of Ocean Heat Content and Anomalies along the Equator in the Pacific Ocean | 18 | 19 |
| Time-Longitude Sections of Ocean Heat Content and Anomalies along 6°S in the Pacific Ocean | 19 | 20 |
| **Atmospheric Conditions** | | |
| Time-Longitude Sections of Surface Zonal Wind Stress and Anomalies along the Equator in the Pacific Ocean | 20 | 21 |
| **Western North Pacific Ocean** | | |
| Ten-day Mean SST and Anomalies | 21-23 | 22-24 |
| Monthly Mean SST and Anomalies | 24 | 25 |
| Time Series of Ten-day Mean SST Anomalies | 25 | 26 |
| Subsurface (at the depth of 100m) Temperatures in Seas Adjacent to Japan | 26 | 27 |
| Sea Surface Current | 27 | 28 |
| **Geographical Distribution of Oceanographic Data** | 28 | 29-30 |

# 海況の特徴（１９９６年８月）

### 太平洋の海況

太平洋赤道域の海面水温は、170°E以東で負偏差であったが、大きな偏差の海域はなかった。南米沖では本年４月以降大きな負偏差が続いていたが、ほぼ平年並に戻った。エルニーニョ監視海域（4°S～4°N、150°W～90°W）の海面水温偏差は、-0.3℃だった。一方、170°E以西では、引き続き平年より0.5℃以上高い海域が広がっていた。D海域の海面水温偏差は、1995年８月以降、+0.5℃前後の正偏差が継続している。このようにD海域で１年以上にわたって+0.5℃程度の偏差が続いたことは、気象庁で解析を行っている1949年以降では初めてのことである（第１表、第１図、第６図、図A）。

太平洋の赤道に沿った表層水温断面図では、西部の水温躍層付近に見られる１℃以上の正偏差域は前月よりも大きくなり150°Wまで広がった。一方、130°W以東の100m以浅に見られる１℃以上の負偏差域は110°W付近で前月よりも深くなったが、南米沿岸はほとんど平年並となった。（第９図）。

30～45°Nの日本付近から東に伸びる負偏差域は、前月よりさらに領域が狭まり、160°E付近までとなった。160°E以東では広く正偏差域となり、ハワイ諸島付近から、北米西岸にかけての20°N付近及びアラスカ湾沖にかけての海域では、平年より0.5℃以上高かった（第６図）。

### 日本近海の海況

海面水温は、南西諸島の南東方では前月の正偏差から負偏差に転じた。九州西方から日本海西部では逆に負偏差から正偏差となった。その他の海域では、引き続き平年より低く、特に、北海道南岸と関東沿岸では、平年より1℃以上低かった（第24図）。

黒潮は、九州から紀伊半島にかけて接岸して流れた後、東に向かい、八丈島の北を経て、ほぼ34°Nに沿って東に流れていた（第27図）。

本州東方の親潮系の冷水は、沿岸寄りの分枝は40.9°N,144.0°Eまで、沖合の分枝は39.6°N,146.0°Eまで、それぞれ達していた。また、常磐沖の36.5°N,142.0°E付近にも親潮系の冷水が見られた（第26図）。

### 熱帯の気象

対流活動は海洋大陸、熱帯インド洋、インドで平年より活発である一方、フィリピンから日付変更線にかけての熱帯太平洋では不活発であった。赤道太平洋上空の風は、140°W以西の西部・中部太平洋で200hPaでは西風偏差、850hPaでは東風偏差となっていた。海面気圧は170°E以東の熱帯太平洋で正偏差、東部熱帯インド洋から海洋大陸にかけて負偏差で、SOI(+0.4)の値は６月から減少し続けている。対流活動を活発化させる季節内変動が今月中旬にインド洋から今月下旬には太平洋西部に東進するのが見られた（第１表、第3～5図、第12図）。

# HIGHLIGHTS August 1996

**Pacific**

In the equatorial Pacific, sea surface temperatures (SSTs) were below normal east of 170°E, however the magnitude of negative anomalies has decreased during August. SSTs returned to near normal off the South American coast where negative anomalies lower than -1°C had continued since April 1996. The SST index for region B (Fig. 1) was -0.3°C. Positive SST anomalies more than 0.5°C persisted west of 170°E. The SST index for region D (Fig. 1) in the western equatorial Pacific has continued to be around +0.5°C since August 1995. Such prolonged high SST anomalies for more than a year in the western tropical Pacific have not been observed since 1949 (Table 1, Figs. 1 and 6, and Fig. A).

Positive subsurface temperature anomalies more than +1°C along the thermocline in the western equatorial Pacific have spread eastward to 150°W during August. In the eastern equatorial Pacific, negative anomalies lower than -1°C east of 130°W from the sea surface to about 100m, have strengthened downward around 110°W compared with July. Subsurface temperature anomalies off the South American coast returned to near normal (Fig. 9).

The region of negative SST anomalies between 30°N and 45°N from around Japan to the east of Japan has decreased further during August, and thus the eastern edge of this region has reached around 160°E. SSTs were generally above normal east of 160°E. Positive SST anomalies more than 0.5°C prevailed from the Hawaii islands eastward to the west coast of North America and northeastward to off Alaska Bay (Fig. 6).

**Seas adjacent to Japan**

SST anomalies between July and August changed from positive to negative southeast of the Nansei Islands and from negative to positive in the western part of the Japan Sea and west of Kyushu. Elsewhere, SSTs were generally below normal, especially in the Pacific coast of Hokkaido and around Kanto where negative anomalies were lower than -1°C (Fig. 24).

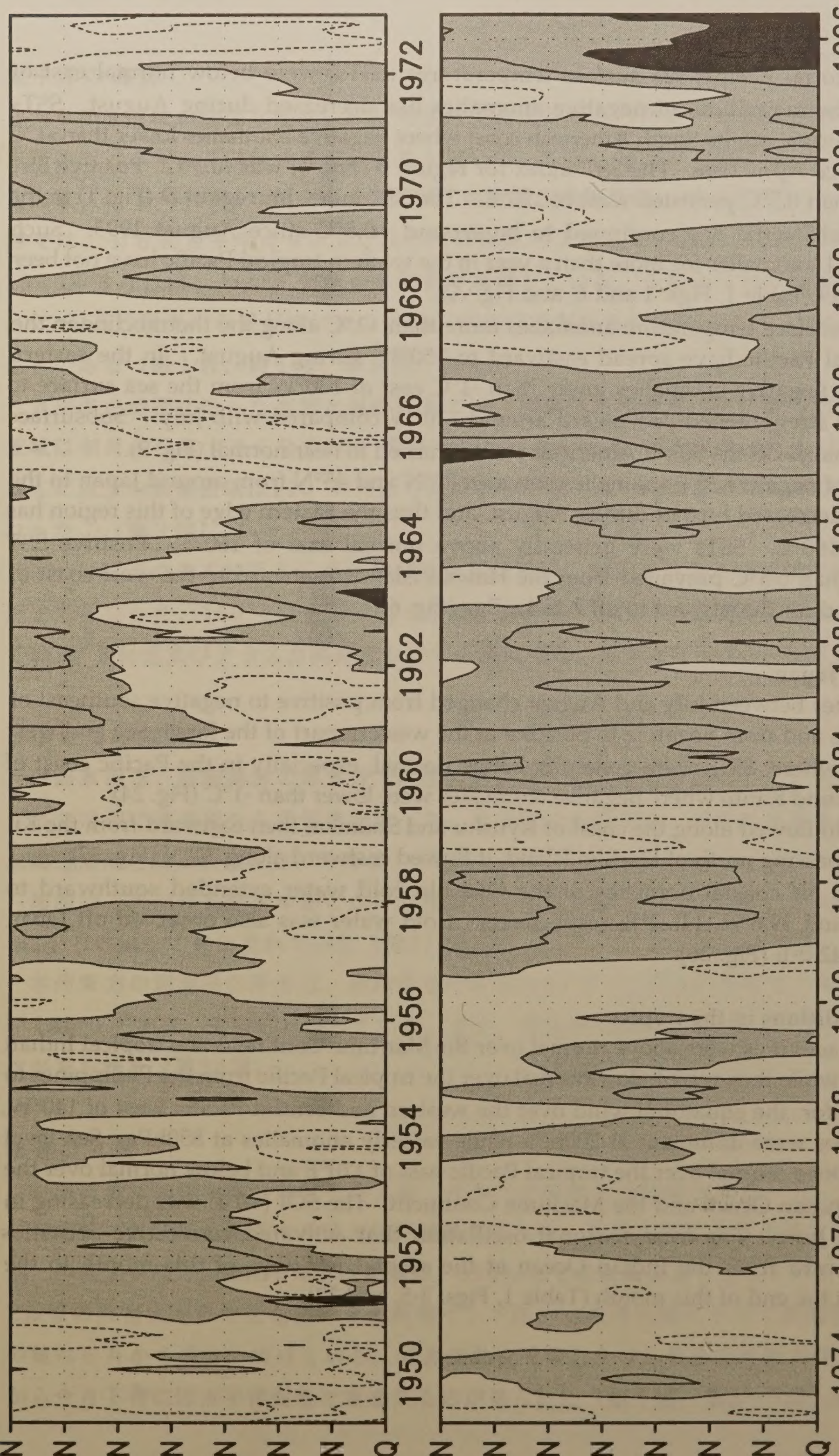
The Kuroshio flowed along the coast of Kyushu and Shikoku, then eastward from the Kii Peninsula. After passing north of Hachijo Island, it flowed eastward along 34°N (Fig. 27).

Coastal and off coastal branches of the Oyashio cold water extended southward to 40.9°N, 144.0°E, and 39.6°N, 146.0°E, respectively. Cold water was also observed off Joban around 36.5°N, 142.0°E (Fig. 26).

**Atmospheric conditions in the tropics**

Convective activities were above normal over the Maritime Continent, the tropical Indian Ocean and India, while they were below normal over the tropical Pacific from the Philippines to the date line. As for the equatorial wind over the western and central Pacific west of 140°W, westerly anomalies were dominant at 200hPa while easterly anomalies at 850hPa. Sea level pressures were above normal over the tropical Pacific east of 170°E and below normal over the eastern tropical Indian Ocean and the Maritime Continent. The SOI (+0.4) was decreasing in magnitude since June. The intra-seasonal oscillation that activated convective activities propagated eastward from the Indian Ocean at the second ten days of this month to the western Pacific at the end of this month (Table 1, Figs. 3-5, and 12).

## Time-Latitude Section of Sea Surface Temperature Anomalies in Region D




図A　西太平洋赤道域のD海域における５か月移動平均海面水温の緯度－時間断面図（130～150° Eの平均）。平年値は1961～1990年の平均である。等値線は0.25° C毎で、正偏差域には陰影を施した。濃い陰影は+0.5° C以上を表す。

Fig. A　Time-latitude section of 5-month running means of sea surface temperature anomalies zonally averaged between 130° E and 150° E in region D in western tropical Pacific (Fig. 1). Anomalies are computed from 1961-1990 base period means. Contour interval is 0.25° C. Positive values are shaded, with values more than +0.5° C darkly shaded.

# El Niño monitoring indices

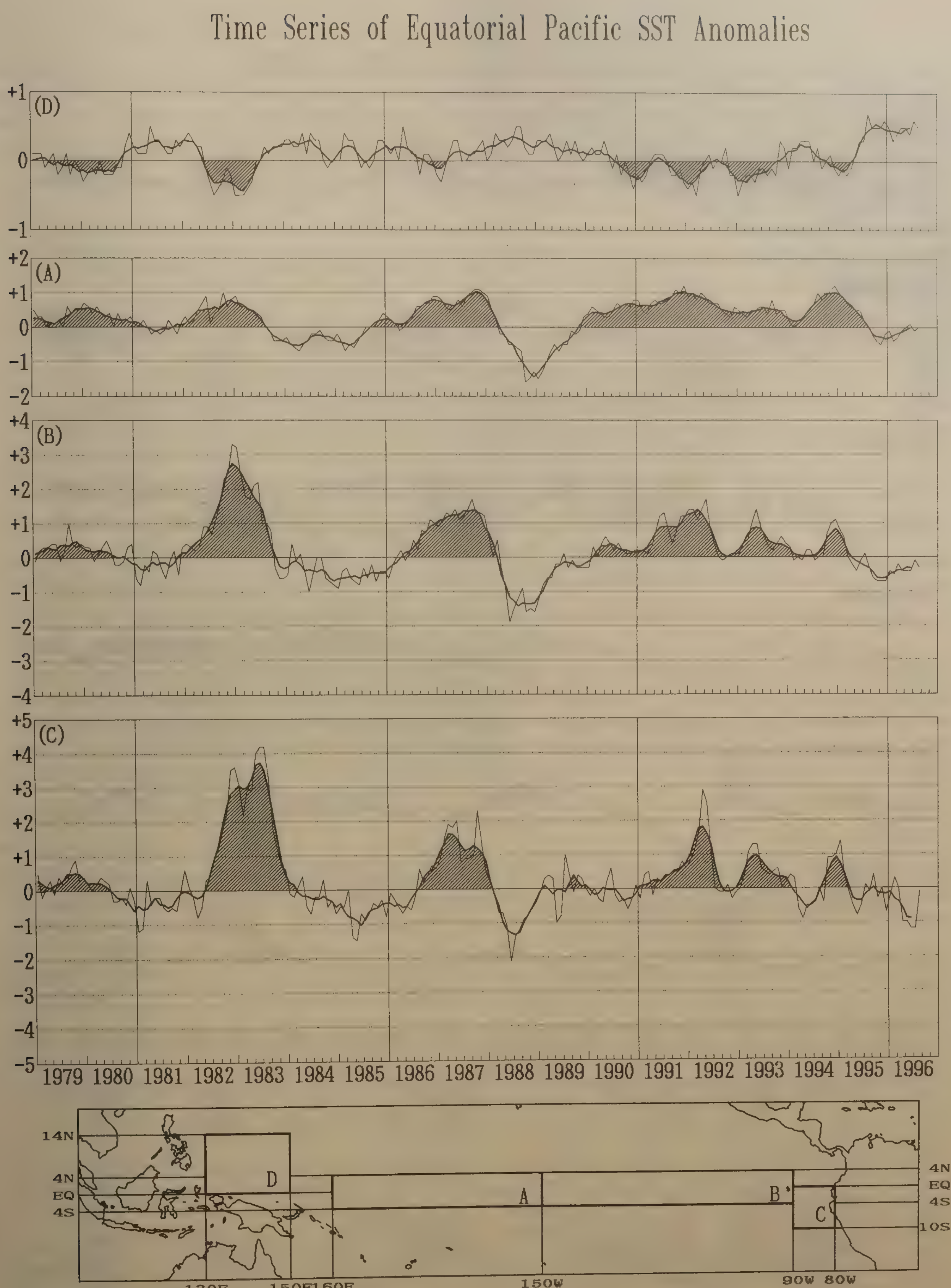
| DATE | SEA SURFACE TEMPERATURE AND ANOMALY (°C) | | | | | | | | SEA LEVEL ANOMALY (cm) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Region D 14N-Eq. 130E-150E | | Region A 4N-4S 160E-150W | | Region B 4N-4S 150W-90W | | Region C Eq.-10S 90W-80W | | Yap 10N,138E | Rabaul 4S,152E | Majuro 7N,171E | Tarawa 1N,173E | Christ-mas 2N,157W | Santa Cruz 1S, 90W |
| SEP 95 | 29.7 | +0.5 | 28.1 | -0.2 | 24.0 | -0.6 | 20.7 | +0.4 | 8.0 | 15.5 | 7.6 | -2.4 | -12.5 | -1.8 |
| OCT 95 | 29.8 | +0.5 | 28.0 | -0.4 | 23.9 | -0.7 | 20.4 | -0.3 | 12.1 | 14.2 | 4.5 | 1.1 | -4.4 | -3.8 |
| NOV 95 | 29.7 | +0.5 | 27.9 | -0.5 | 23.9 | -0.7 | 21.5 | 0.0 | 14.6 | 13.1 | 10.9 | -1.4 | -8.2 | -2.1 |
| DEC 95 | 29.5 | +0.6 | 28.0 | -0.2 | 24.2 | -0.7 | 21.9 | -0.7 | 12.1 | 16.2 | 3.4 | 1.0 | -6.2 | -4.8 |
| JAN 96 | 29.0 | +0.5 | 27.9 | -0.1 | 25.0 | -0.4 | 24.1 | -0.2 | 9.2 | 13.7 | 7.9 | 5.5 | -2.7 | -3.0 |
| FEB 96 | 28.6 | +0.3 | 27.6 | -0.4 | 25.7 | -0.5 | 26.0 | +0.3 | 9.7 | 14.0 | 5.9 | 4.2 | -3.1 | 6.1 |
| MAR 96 | 28.8 | +0.4 | 27.8 | -0.3 | 26.7 | -0.2 | 25.9 | 0.0 | 8.2 | 11.8 | -3.7 | 6.1 | 0.3 | 1.0 |
| APR 96 | 29.3 | +0.5 | 28.1 | -0.1 | 26.7 | -0.4 | 24.1 | -1.0 | -4.4 | 12.9 | 5.0 | 2.6 | -2.8 | -4.4 |
| MAY 96 | 29.6 | +0.5 | 28.5 | 0.0 | 26.2 | -0.4 | 22.9 | -1.0 | -8.8 | 14.2 | 7.8 | 7.9 | -0.7 | -3.7 |
| JUN 96 | 29.7 | +0.4 | 28.6 | 0.1 | 25.7 | -0.4 | 21.5 | -1.2 | 2.5 | 10.1 | 4.4 | 5.1 | -0.6 | -5.1 |
| JUL 96 | 29.8 | +0.6 | 28.4 | -0.1 | 25.1 | -0.1 | 20.4 | -1.2 | 12.3 | 12.9 | 3.8 | 1.2 | -3.7 | -0.2 |
| AUG 96 | 29.6 | +0.5 | 28.4 | 0.0 | 24.3 | -0.3 | 20.5 | -0.1 | | | | | | |

第１表（a）　エルニーニョ監視指数

Table 1 (a) El Niño monitoring indices. Data sources are the SOC for ISLP-Pac, Department of Oceanography, University of Hawaii for the sea level anomaly. All the data of sea level anomaly has been revised.

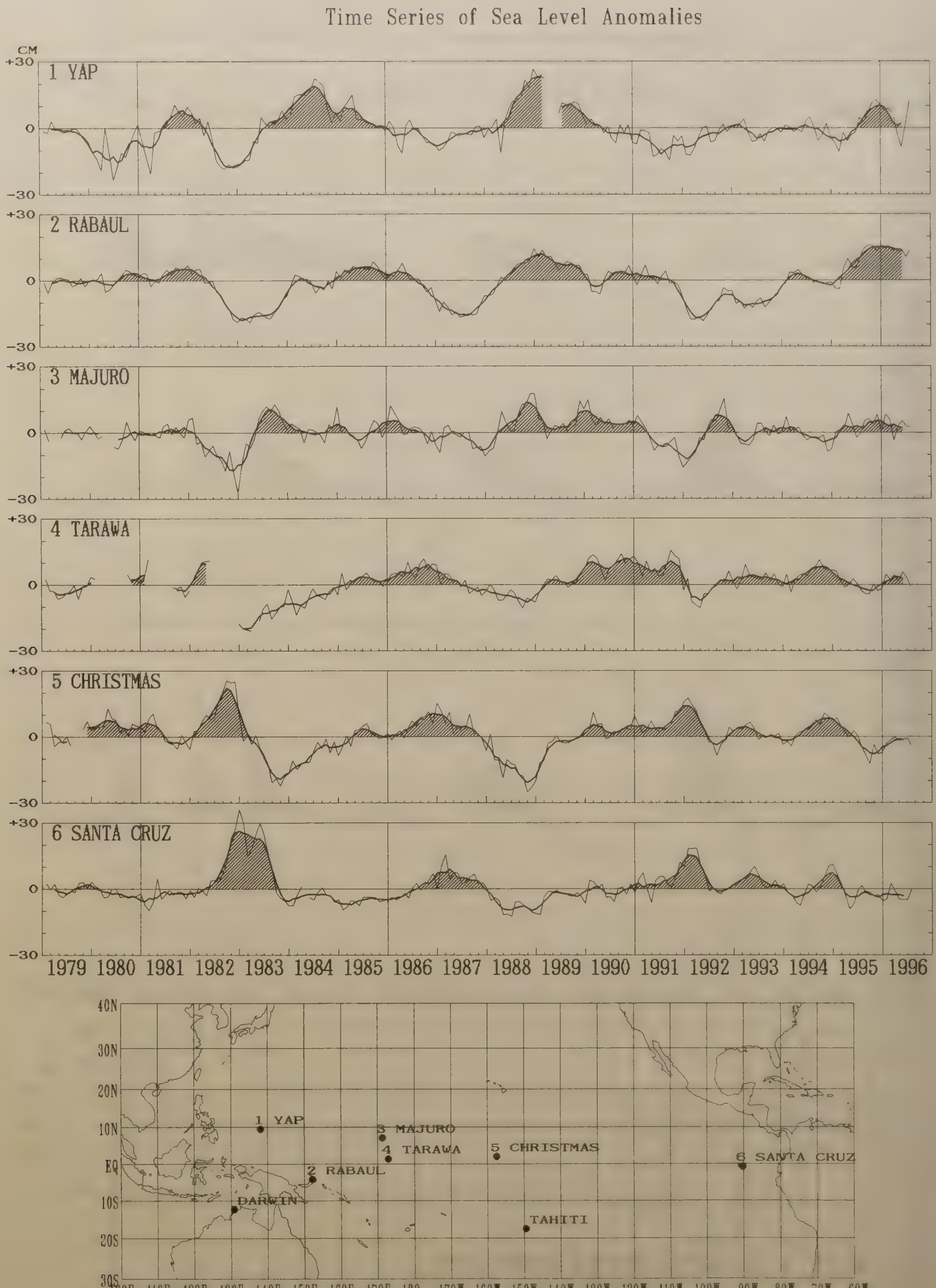
| DATE | SOI | SEA LEVEL PRESSURE ANOMALIES | | HIGH CLOUD AMOUNT INDEX | | | EQUATORIAL ZONAL WIND INDEX | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TAHITI 17°33'S, 149°37'W | DARWIN 12°24'S, 130°52'E | HCLD-PH 20N-10N 110E-140E | HCLD-MC 5N-5S 110E-135E | HCLD-DL 5N-5S 170E-170W | U200-IN 5N-5S 80E-100E | U200-CP 5N-5S 180 -125W | U850-WP 5N-5S 160E-175W | U850-CP 5N-5S 170W-135W | U850-EP 5N-5S 130W-100W |
| SEP 95 | 0.2 | 0.4 | 0.0 | 1.4 | 0.7 | -1.0 | -2.0 | 1.5 | -0.9 | -1.0 | -0.1 |
| OCT 95 | -0.3 | -0.7 | -0.5 | 0.1 | 0.2 | -1.0 | -0.7 | 0.6 | -1.2 | -0.7 | 0.1 |
| NOV 95 | 0.1 | 0.1 | -0.1 | 0.1 | 1.4 | -1.2 | -2.1 | 0.8 | -1.1 | -0.8 | -0.8 |
| DEC 95 | -0.5 | -0.9 | 0.0 | 4.0 | 1.2 | -1.2 | -0.3 | -0.1 | -1.0 | -0.3 | 0.3 |
| JAN 96 | 0.8 | 1.0 | -0.7 | 1.6 | 1.5 | -1.3 | -1.0 | 0.8 | -1.2 | -1.2 | 0.0 |
| FEB 96 | 0.1 | -0.3 | -0.5 | 1.7 | 1.4 | -1.1 | -0.7 | 0.4 | -1.1 | -1.4 | -0.6 |
| MAR 96 | 0.7 | 1.0 | -0.3 | 0.3 | -0.4 | -1.2 | -0.2 | 0.0 | -1.1 | -1.5 | -0.3 |
| APR 96 | 0.8 | 0.5 | -0.5 | 2.4 | 0.6 | -0.7 | -1.3 | 1.1 | -1.6 | -1.1 | -0.5 |
| MAY 96 | 0.3 | 1.2 | 1.2 | 0.6 | 0.0 | -0.6 | -1.3 | 0.8 | -1.0 | -1.3 | 0.3 |
| JUN 96 | 1.4 | 1.6 | -0.2 | -1.4 | 0.4 | -0.6 | 0.8 | 1.0 | -1.4 | -2.0 | 0.5 |
| JUL 96 | 0.7 | 0.6 | -0.6 | 0.8 | 0.1 | -0.7 | -0.3 | 1.3 | -1.4 | -2.1 | -0.1 |
| AUG 96 | 0.4 | 0.4 | -0.3 | -1.6 | 1.0 | -0.9 | 0.9 | 0.8 | -1.3 | -1.1 | 0.3 |

第１表（ｂ）　エルニーニョ監視指数（続き）
Table 1 (b)　El Niño monitoring indices (continued).



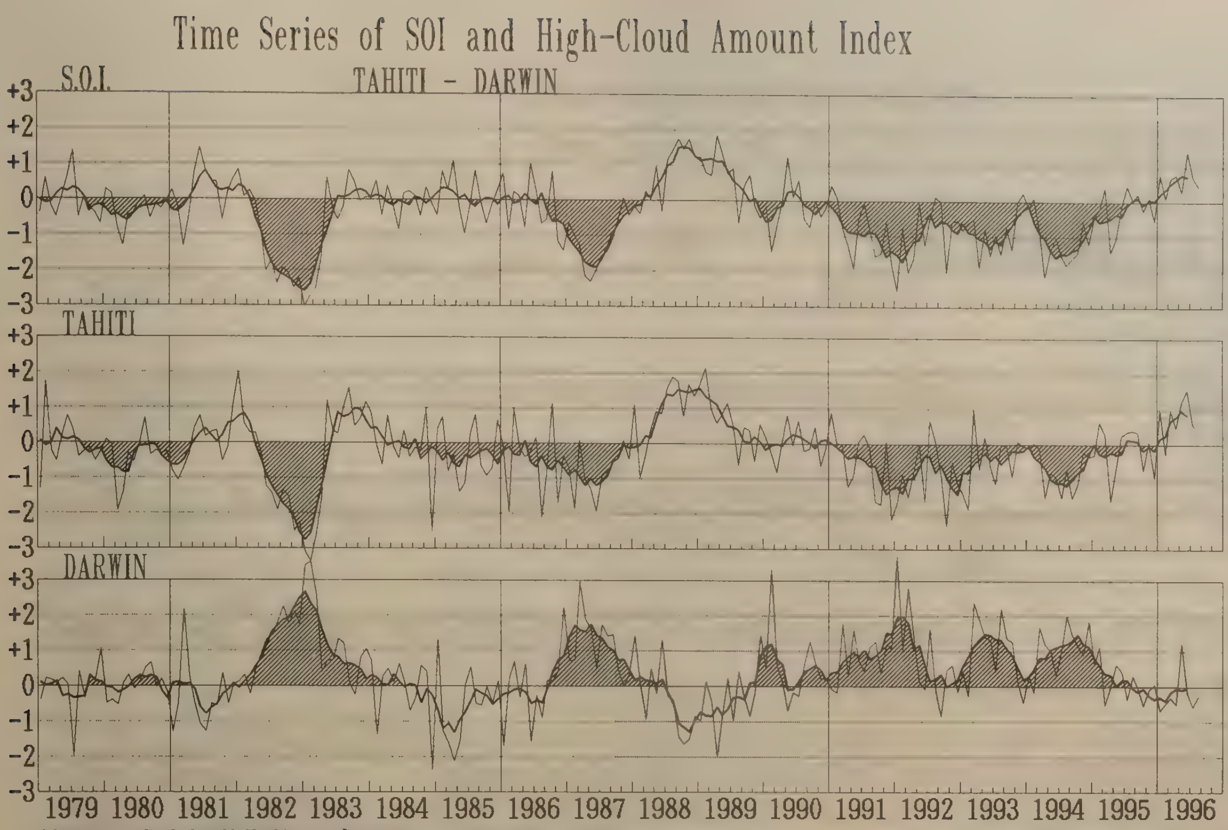

第1図　太平洋赤道域の海面水温偏差時系列図

Fig.1 Time series of monthly mean SST anomalies (°C) in the equatorial Pacific Ocean for the areas indicated at the bottom.
Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1961-1990).



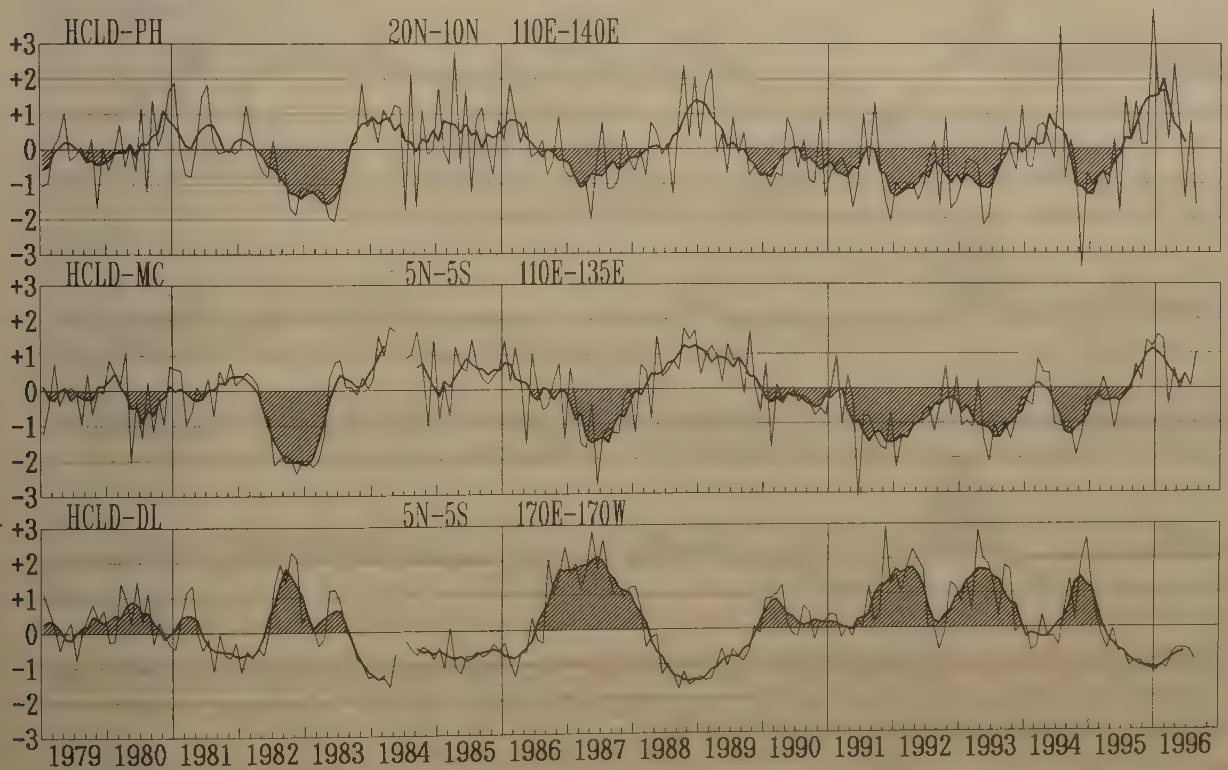

第2図　太平洋月平均海面水位偏差時系列図

Fig.2 Time series of sea level anomalies computed from 1976-1990 monthly mean values obtained from the stations indicated at the bottom. Thin lines show the monthly mean and thick lines their 5-month running means. Positive anomalies are shaded.



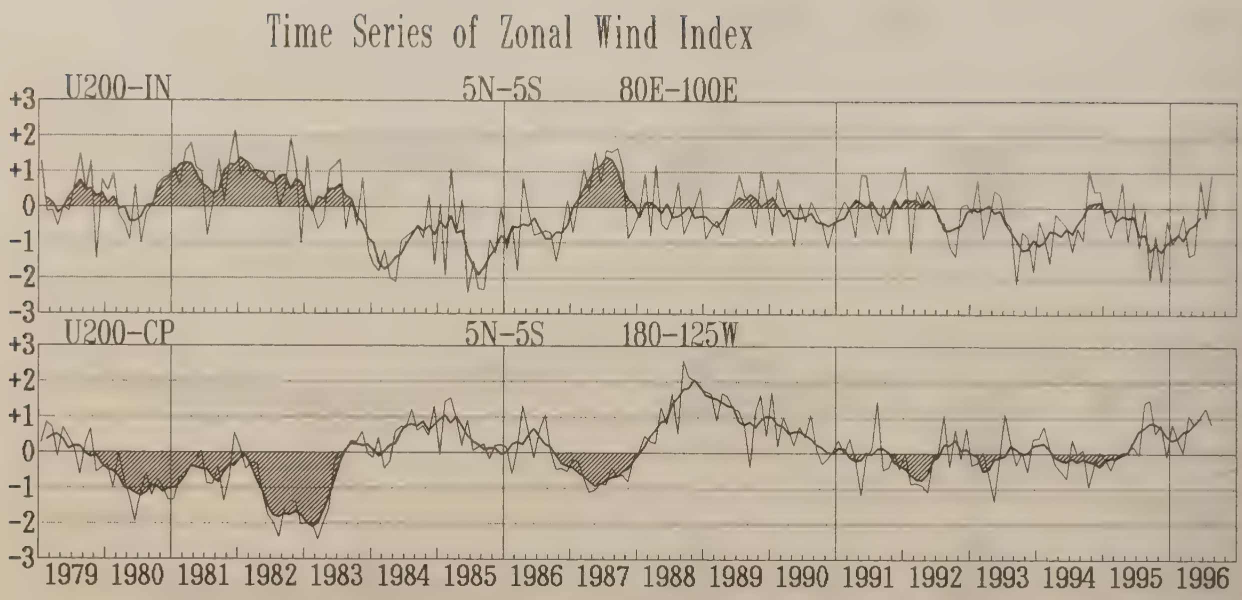

第3図　南方振動指数及び海面気圧偏差時系列図

Fig.3 Time series of the Southern Oscillation Index (top) and monthly mean sea level pressure standardized anomalies at Tahiti (middle) and Darwin (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Negative anomalies (top, middle) and posotive anomalies (bottom) are shaded. Normals and standard deviations are computed from 1961-1990 base periods.



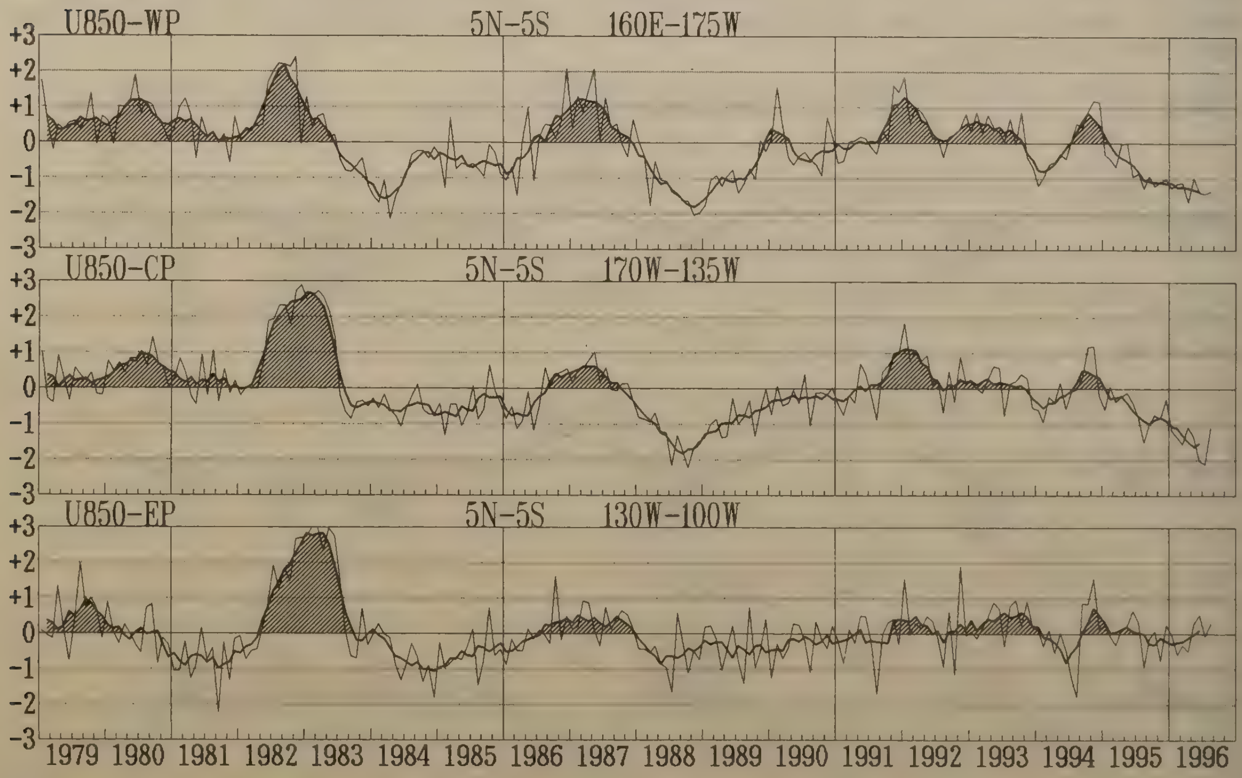

第4図　月平均上層雲量指数時系列図

Fig.4 Time series of high-cloud amount index averaged over the area 20°N-10°N, 110°E-140°E (top), 5°N-5°S, 110°E-135°E (middle), and 5°N-5°S, 170°E-170°W (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Negative anomalies (top, middle) and positive anomalies (bottom) are shaded. Normals and standard deviations are computed from 1978-1990 base periods.



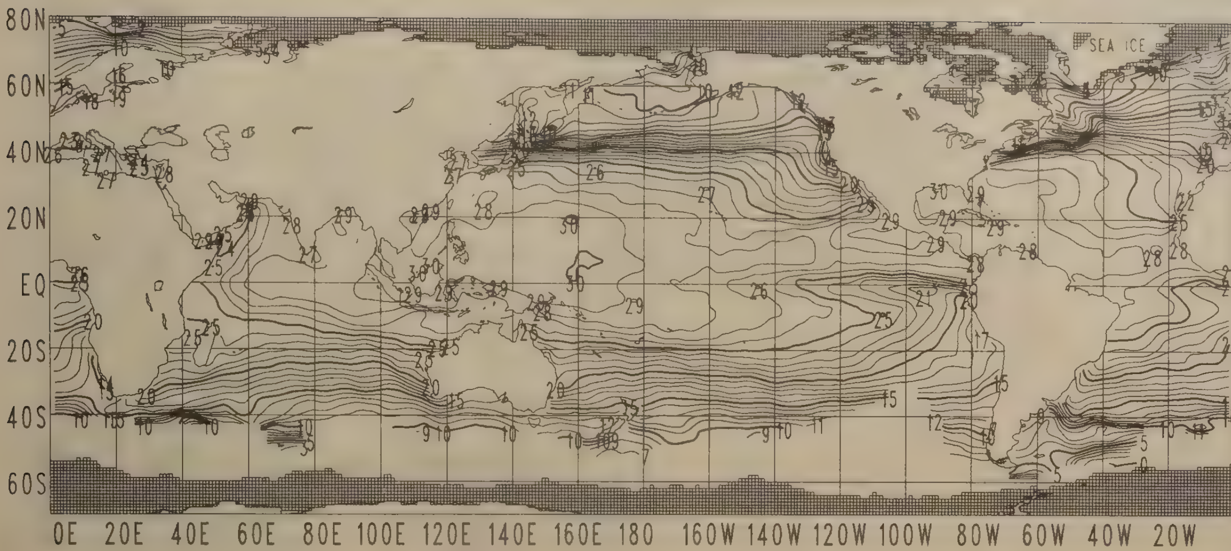

第5図-1　赤道域東西風指数(200ｈＰａ)時系列図

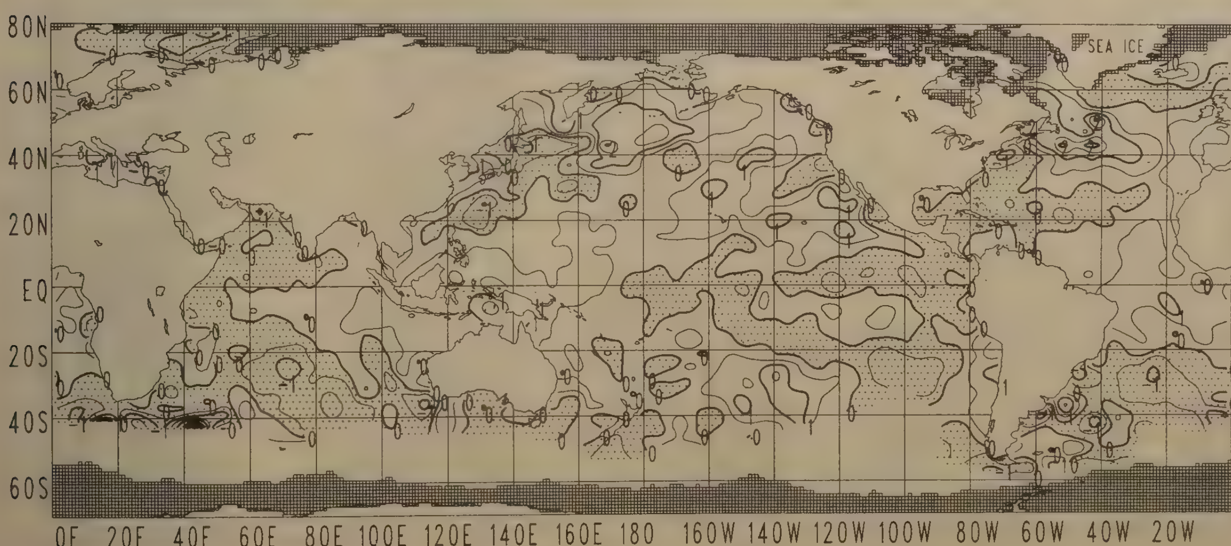
Fig.5-1 Time series of 200hPa zonal wind index averaged over the areas of 5°N-5°S, 80°E-100°E (top), and 5°N-5°S, 180°-125°W (bottom).
Thin lines show the monthly mean and thick lines their 5-month running means.
Positive anomalies (top) and negative anomalies (bottom) are shaded.
Normals and standard deviations are computed from 1979-1990 base periods.




第5図-2　赤道域東西風指数(850ｈＰａ)時系列図

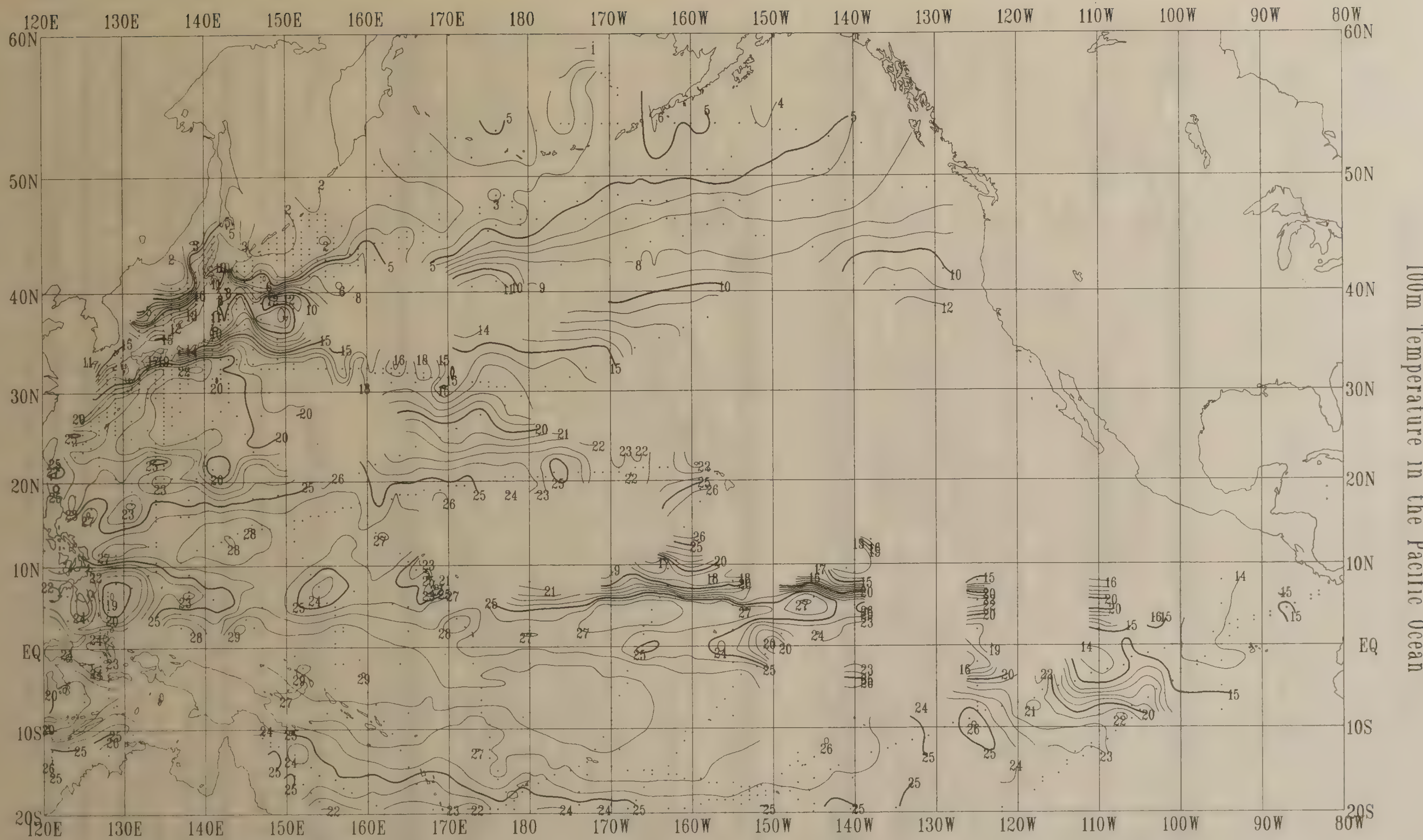
Fig.5-2 Time series of 850hPa zonal wind index averaged over the areas of 5°N-5°S, 160°E-175°W (top), 5°N-5°S, 170°W-135°W (middle), and 5°N-5°S, 130°W-100°W (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Positive anomalies are shaded.
Normals and standard deviations are computed from 1979-1990 base periods.




第6図　全球月平均海面水温図（上）及び偏差図（下）（1996年 8月）

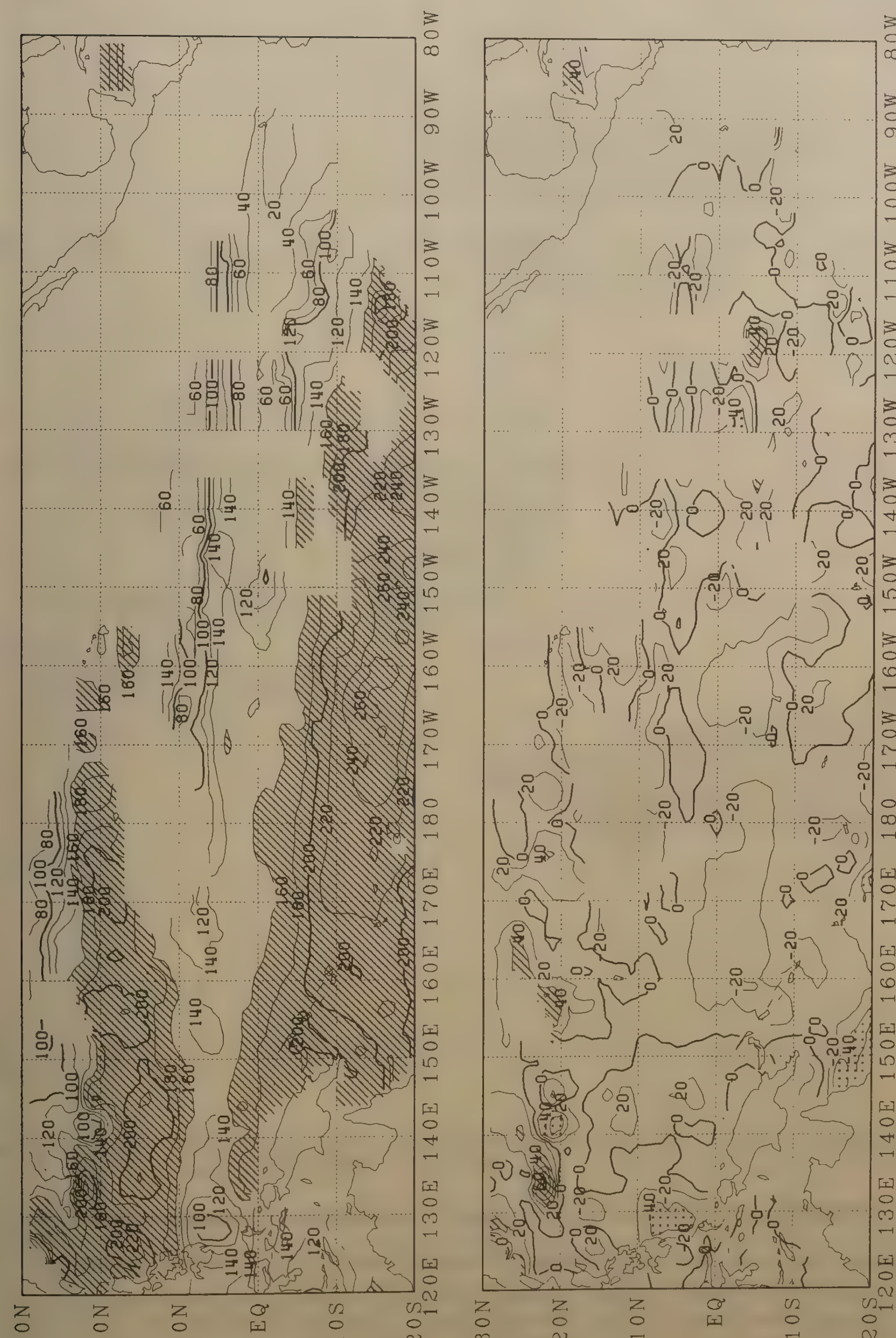
Fig.6 Monthly mean sea surface temperature over the global ocean (top) and anomalies (bottom) for AUG 1996. Anomalies are computed from the JMA climatology (1961-1990) (Marine Department of JMA, 1991, Climatic charts of sea surface temperatures of the western North Pacific and the global ocean). Contour interval is 1°C (top) and additional anomaly contours of ±0.5°C are shown as thin lines. Negative anomalies are spotted. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).




第7図　太平洋表層水温(深さ100m)図 (1996年 8月)

Fig.7 Subsurface (100m) temperatures in the Pacific Ocean for AUG 1996.
Contour interval is 1°C. Observation points are denoted by dots.

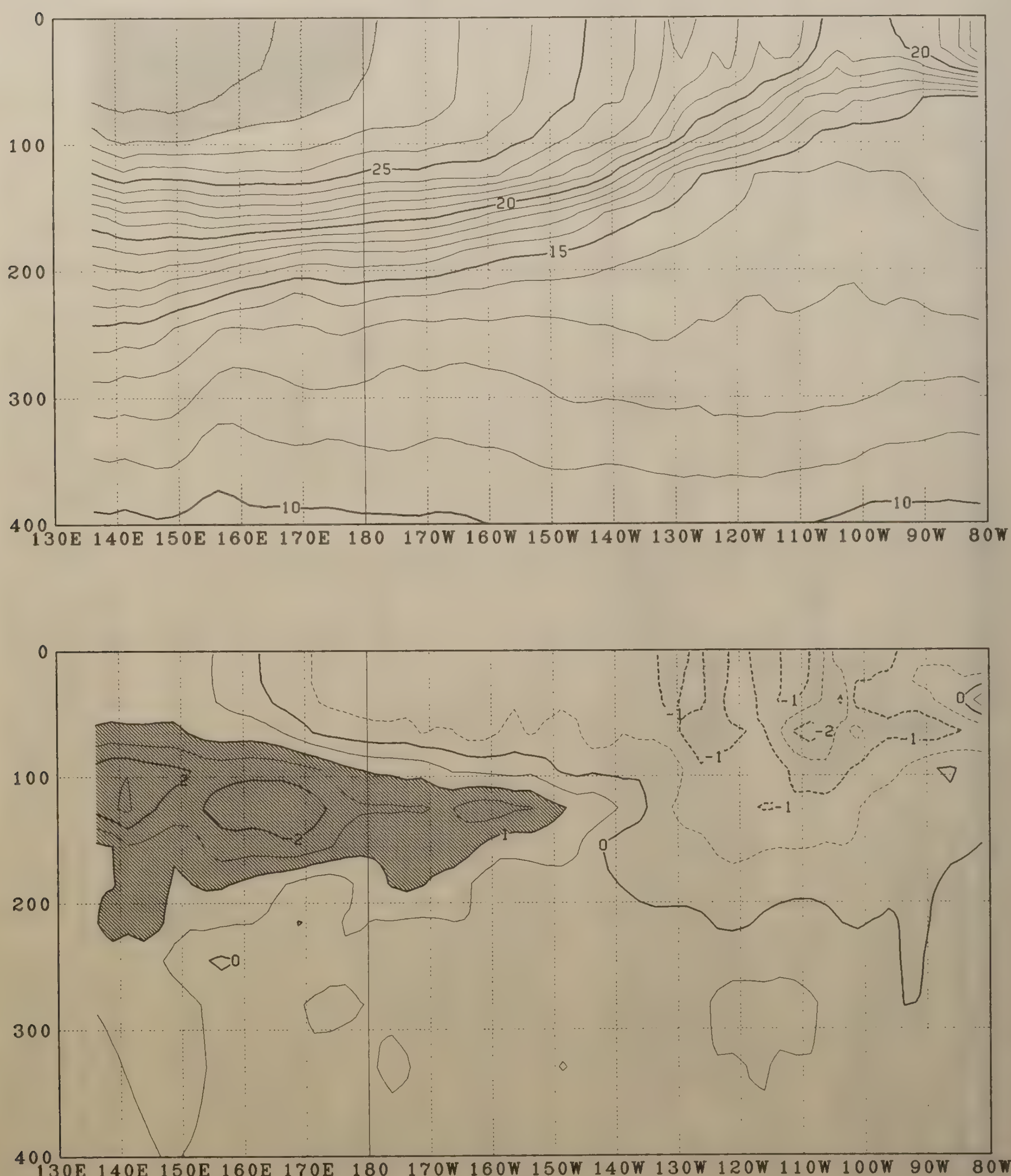
Depth of 20C & Anomalies in the Pacific Ocean




第8図　太平洋20℃深度図（上）及び偏差図（下）（1996年 8月）

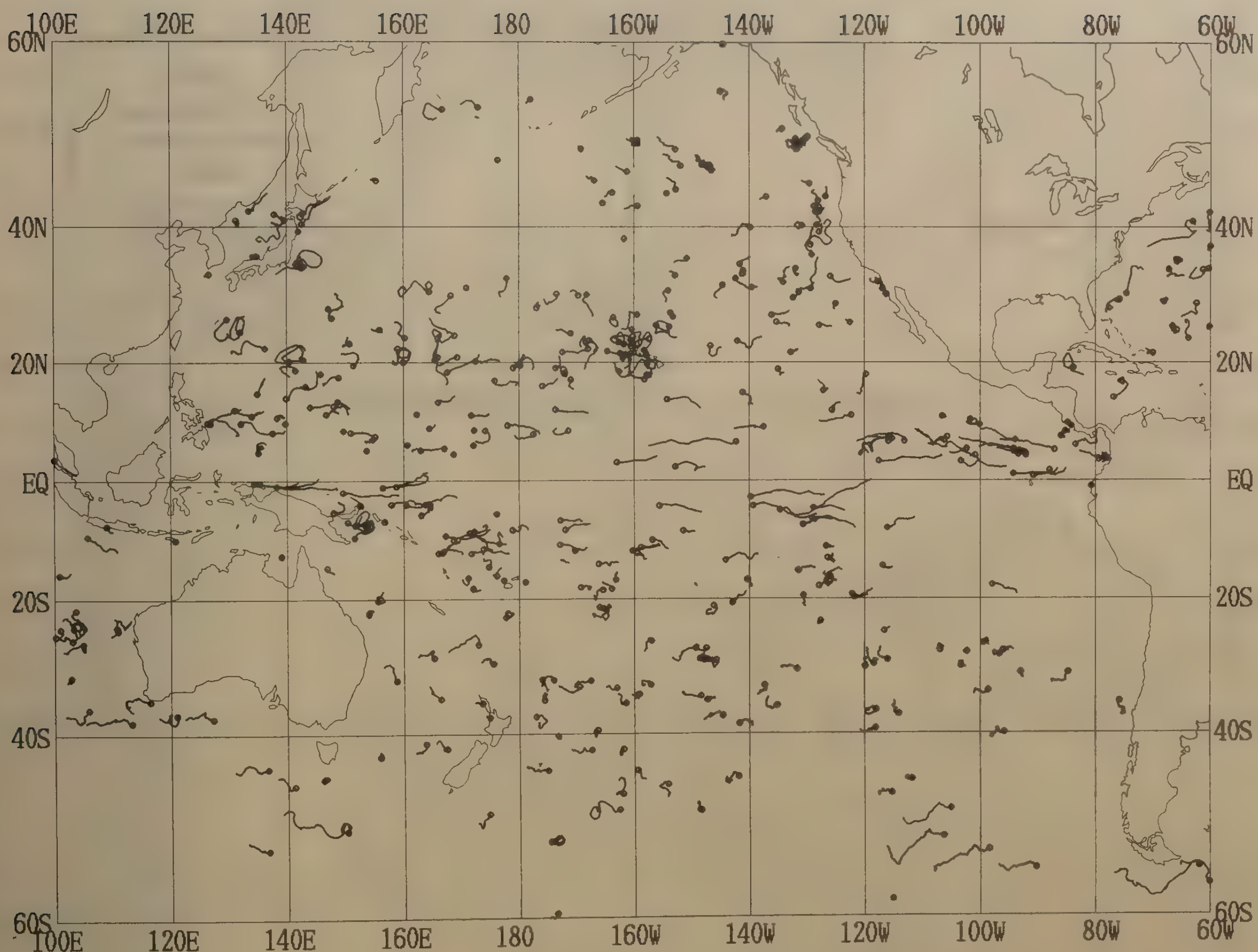
Fig.8 Depth of the 20°C isotherm in the Pacific Ocean (top) and anomalies (bottom) for AUG 1996. Anomalies are computed from the climatology (Levitus, 1982, Climatological Atlas of the World Ocean, NOAA). Contour interval is 20m. Values greater than 160m in top panel are shaded. In bottom panel values greater than +40m are shaded and values less than -40m are spotted.

## Depth–Longitude Sections of Equatorial Temperature & Anomalies



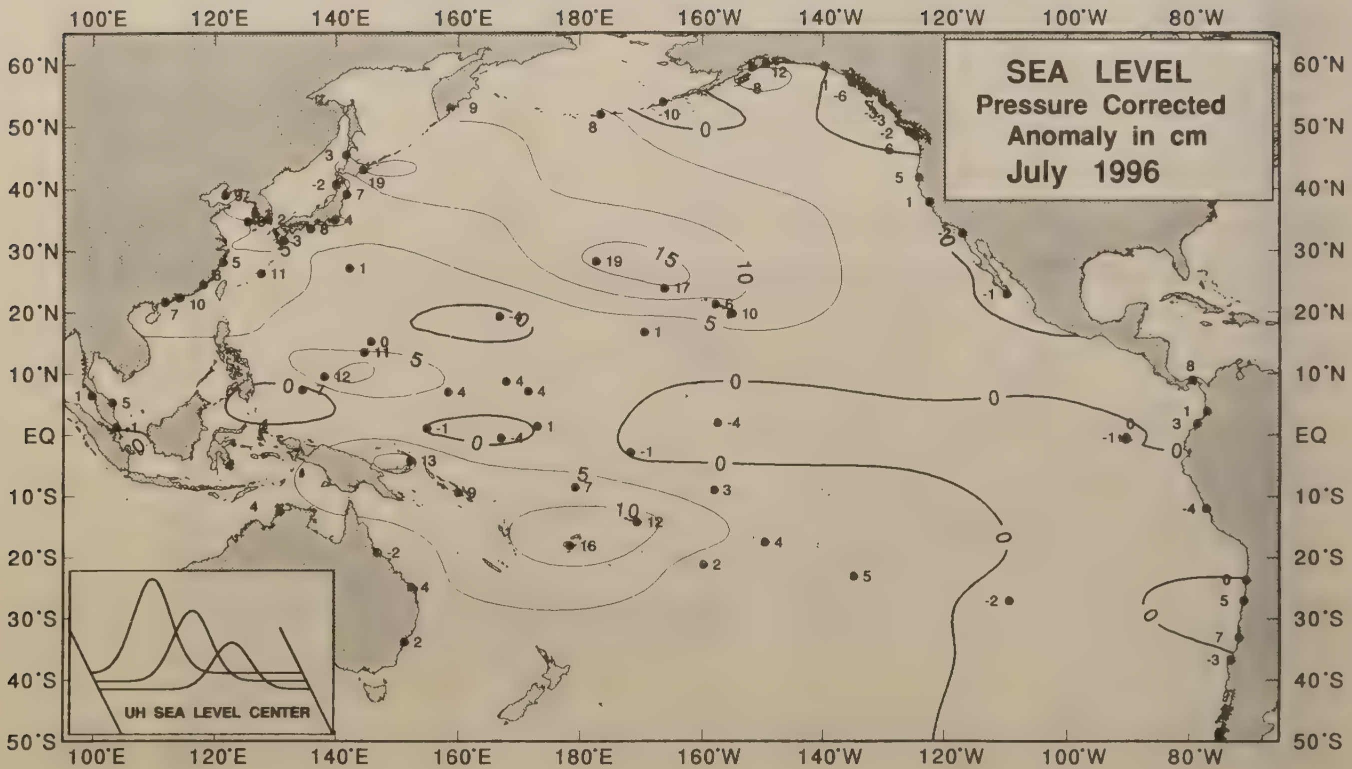

第9図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（1996年 8月）

Fig.9 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for AUG 1996. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (top) and 0.5°C (bottom). Values greater than 28°C in top panel are shaded. In bottom panel values greater than 1°C are shaded and values less than -1°C are spotted. Anomalies are computed from 1987-1995 base period means.




第10図　太平洋ブイ流跡図( 1996年 8月 )

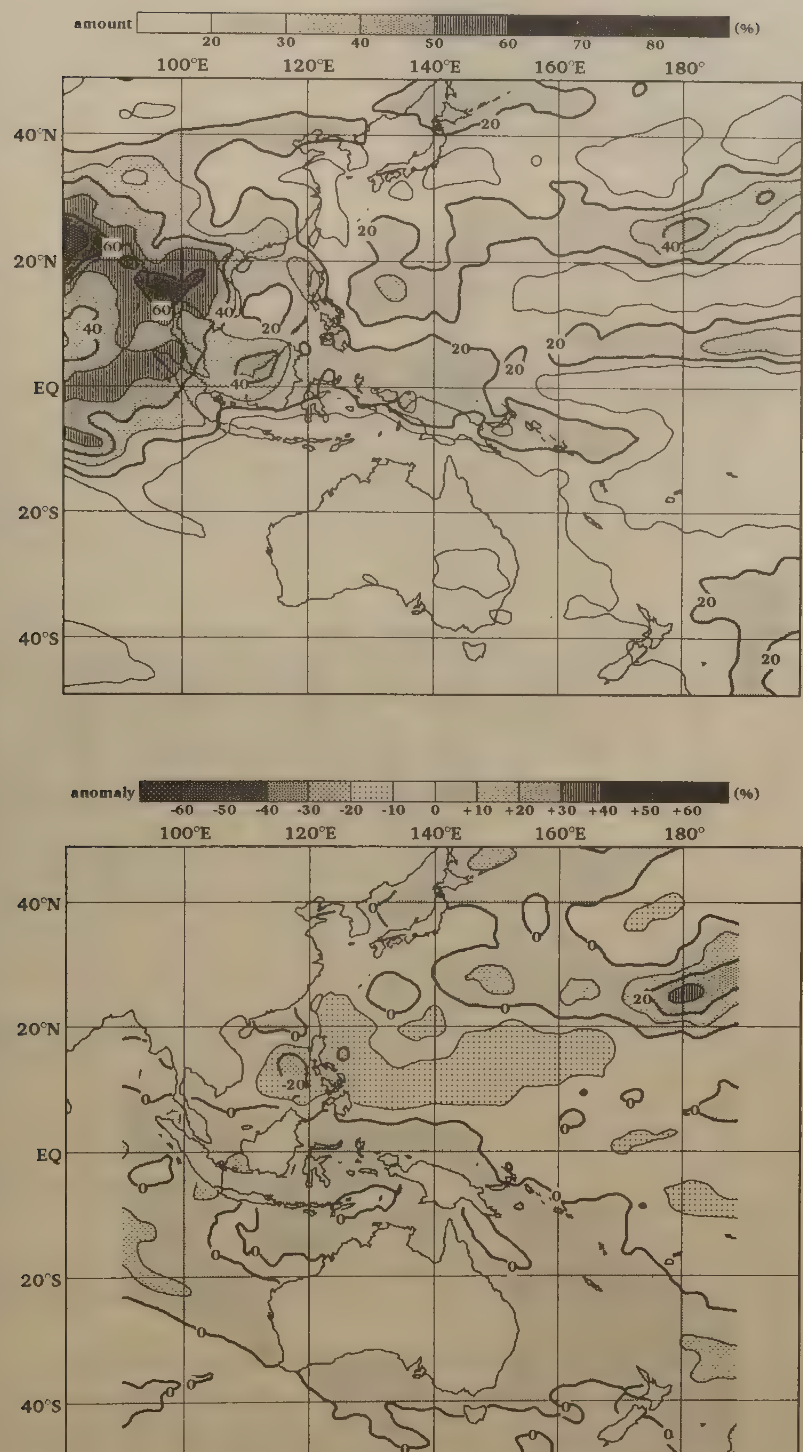
Fig.10　Movements of drifting buoys in the Pacific Ocean during AUG 1996.　Each track is for one buoy. Small circles represent last positions for the month.




第11図　太平洋海面水位偏差図（ 1996年 7月 ）

Fig.11 Monthly sea level anomalies for JUL 1996 obtained from mean sea level (1975-1986) adjusted for atmospheric pressure.
This figure is prepared by the SOC of ISLP-PAC, Dept. of Oceanography, Univ. of Hawaii.

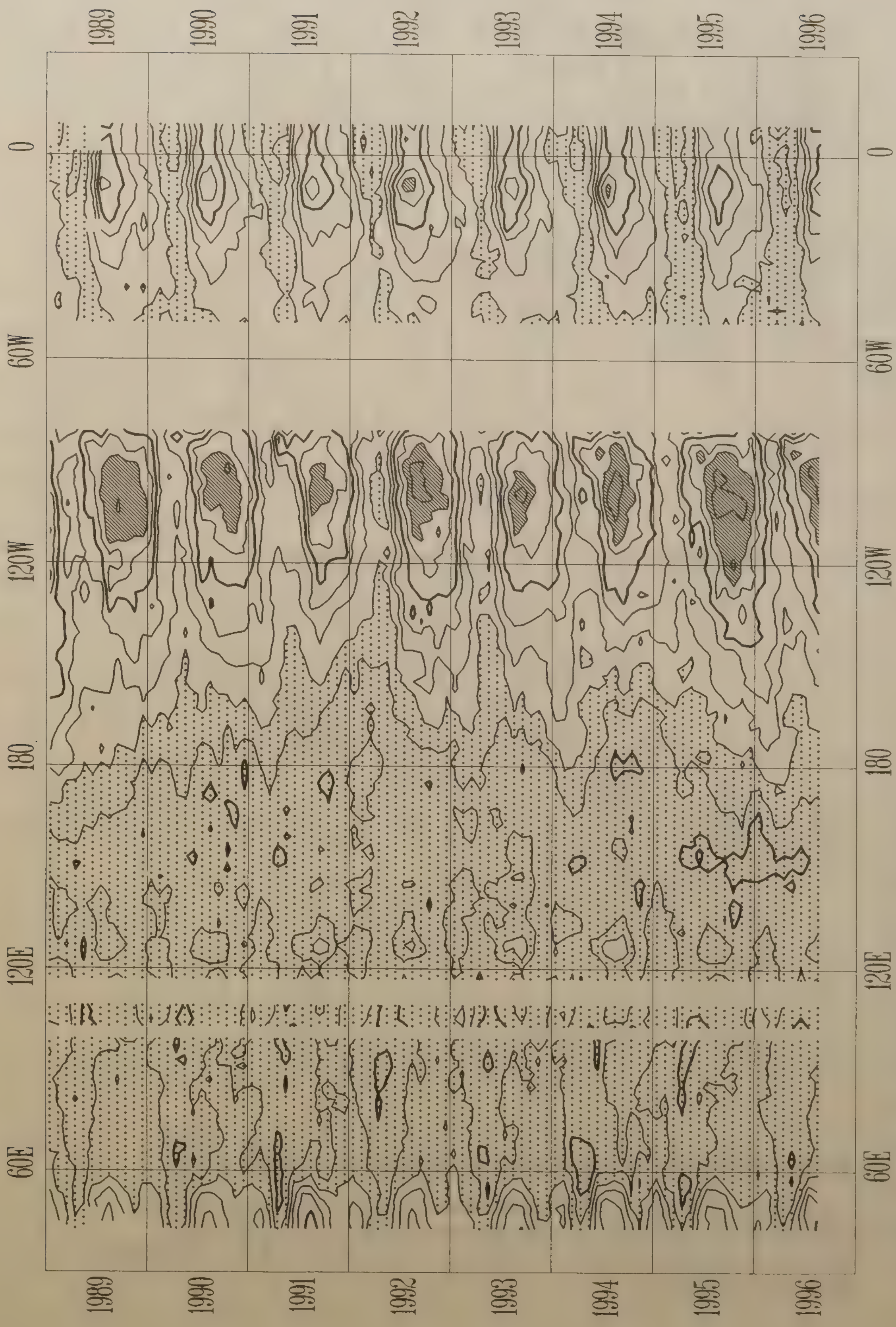
High-Cloud Amount & Anomalies




第12図　西太平洋月平均上層雲量分布図及び偏差図（1996年 8月）

Fig.12 Monthly mean of the high-cloud amount (%, top) and its anomalies (%, bottom) in the western Pacific for AUG 1996. Contour interval is 10%. Anomalies are computed from 1978-1990 base period means.

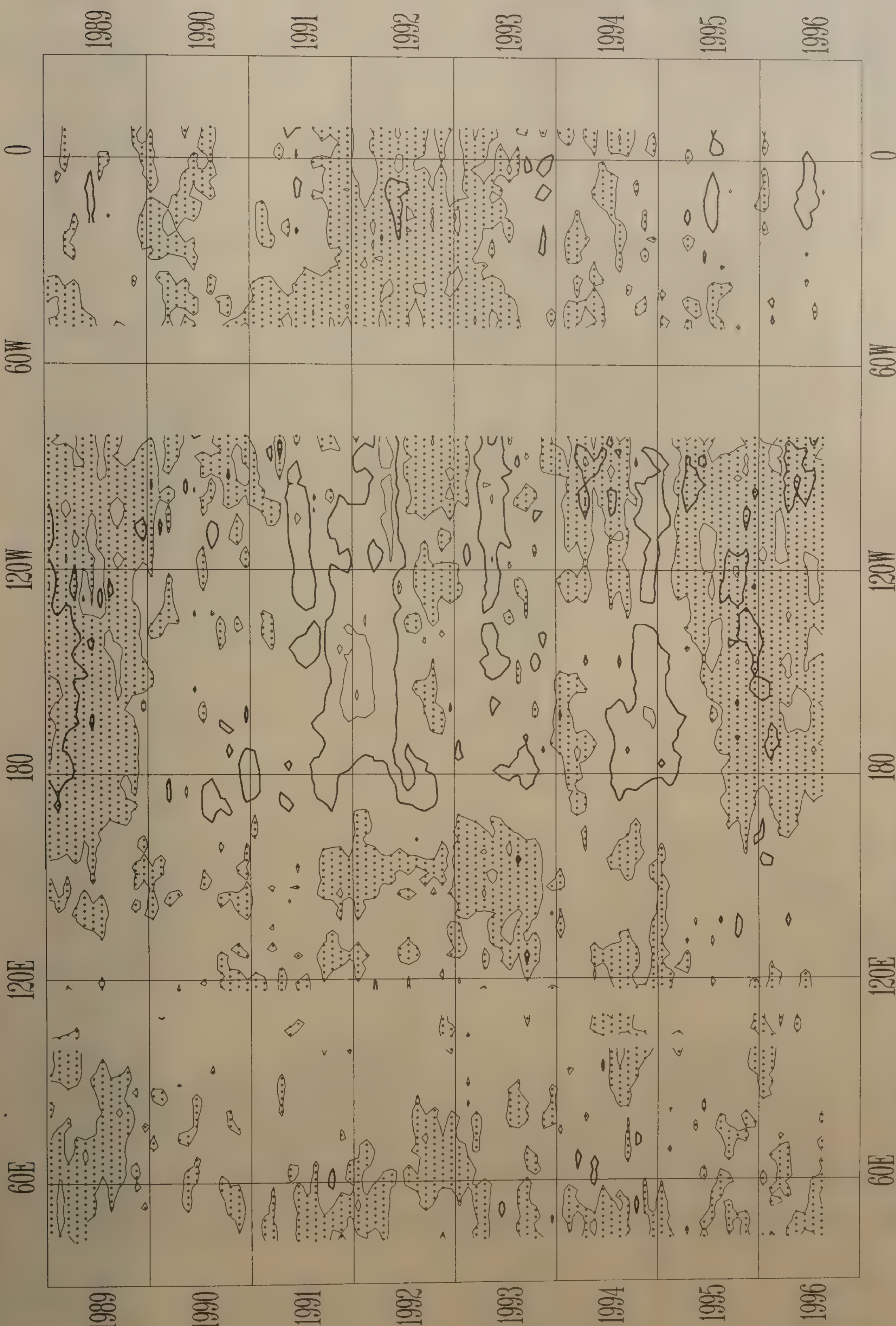
Time-Longitude Section of SST




第13図　赤道に沿う海面水温の時間－経度断面図

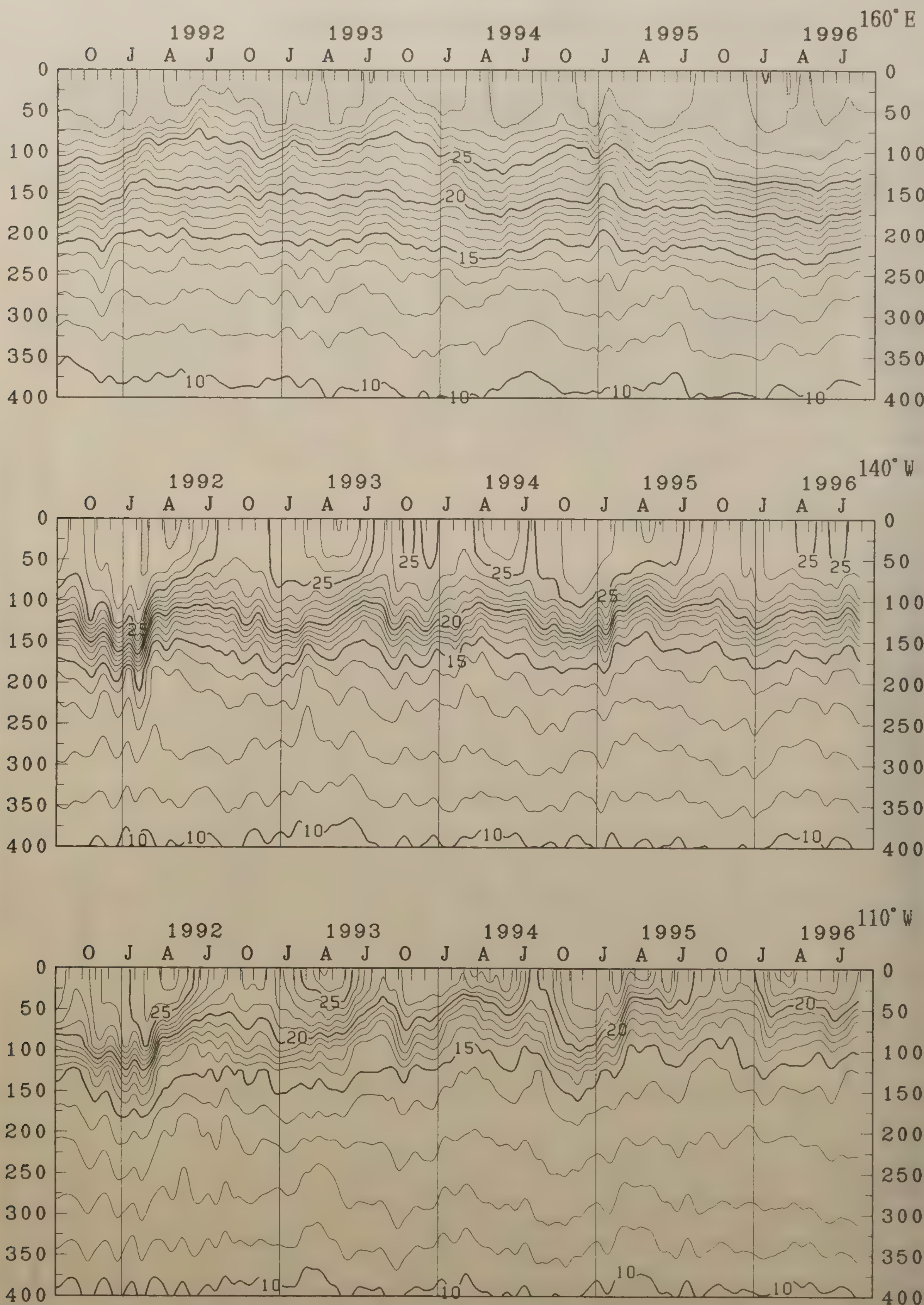
Fig.13 Time-longitude section of SSTs along the equator (2°N-2°S) in the global ocean. Contour interval is 1°C, with thick contour lines at 25 and 30°C. SST values greater than 28°C are spotted and values less than 23°C are shaded.

Time-Longitude Section of SST Anomalies




第14図　赤道に沿う海面水温偏差の時間－経度断面図

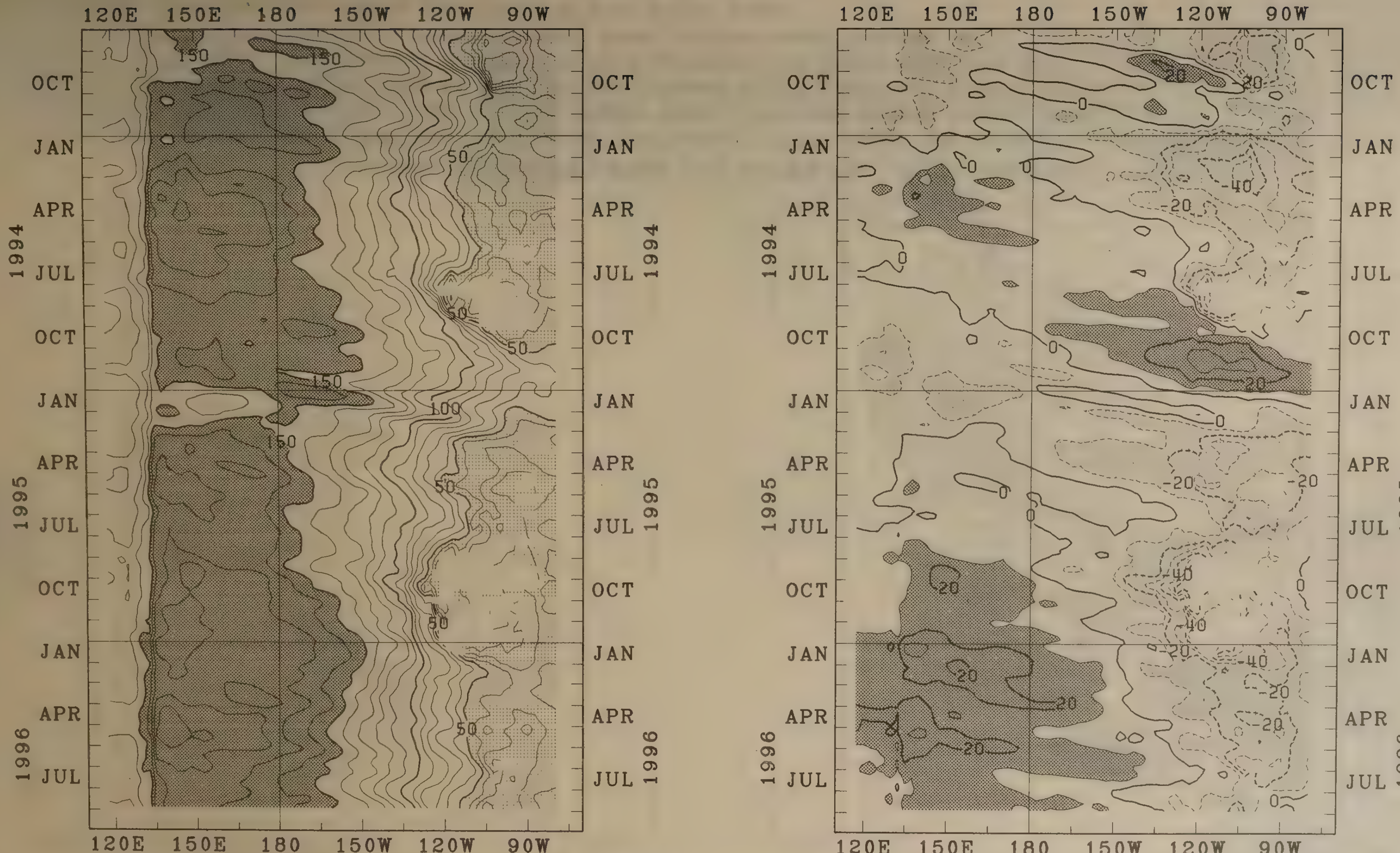
Fig.14 Time-longitude section of SST anomalies along the equator (2°N-2°S) computed from the JMA climatology (1961-1990). Contour interval is 1°C, with thick contour lines at +1°C and -1°C. Negative anomalies are spotted.




第15図　太平洋赤道域の表層水温の時間－深度断面図
（上：西部、中：中部、下：東部）

Fig.15 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.

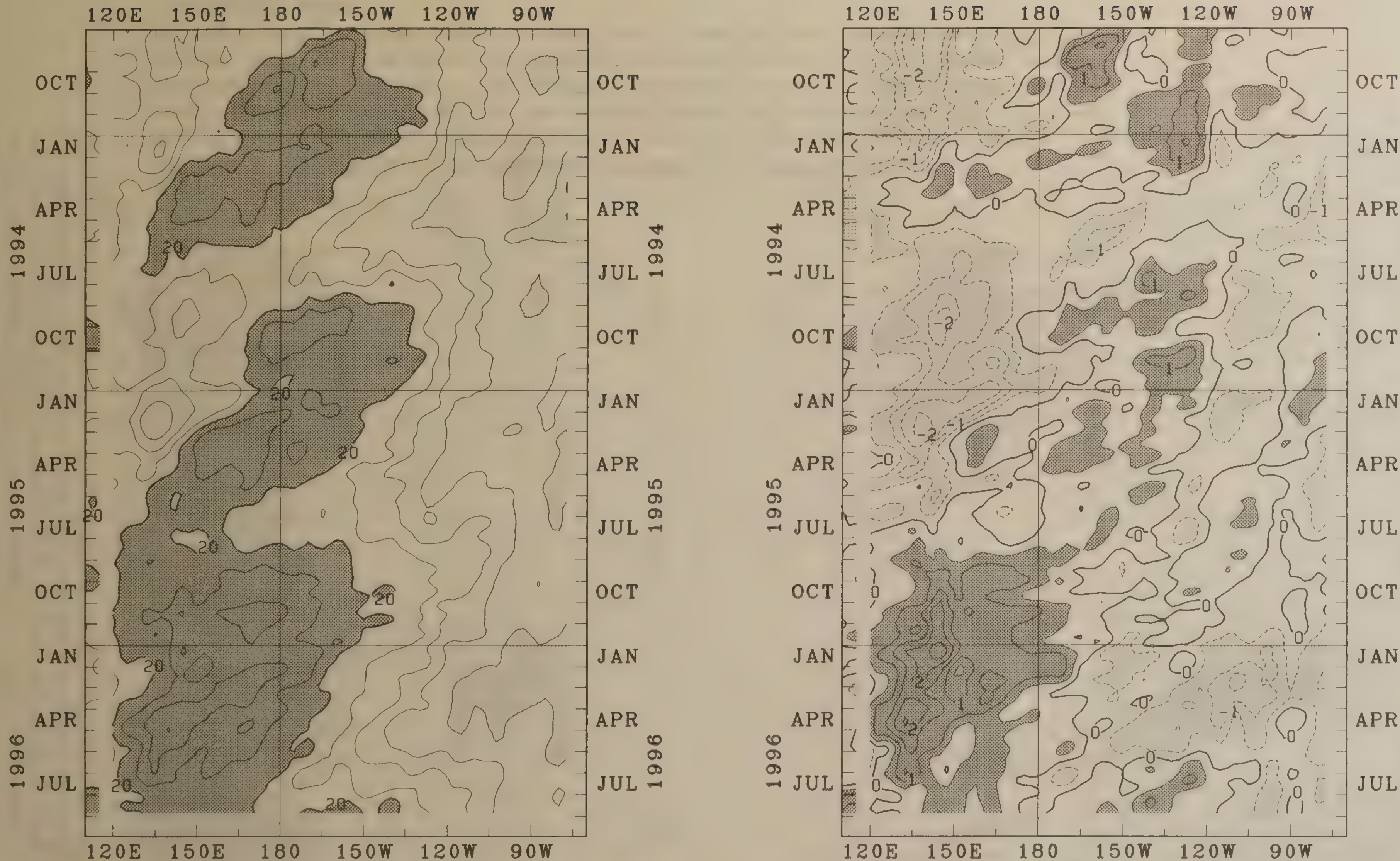
Time-Longitude Section of Depth of 20C & Anomalies (Eq.)




第16図　太平洋の赤道に沿う20℃深度（左）及び偏差（右）の時間－経度断面図

Fig.16 Time-longitude sections of depth of the 20°C isotherm along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 10m. Values in left panel greater than 150m are shaded and values less than 50m are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

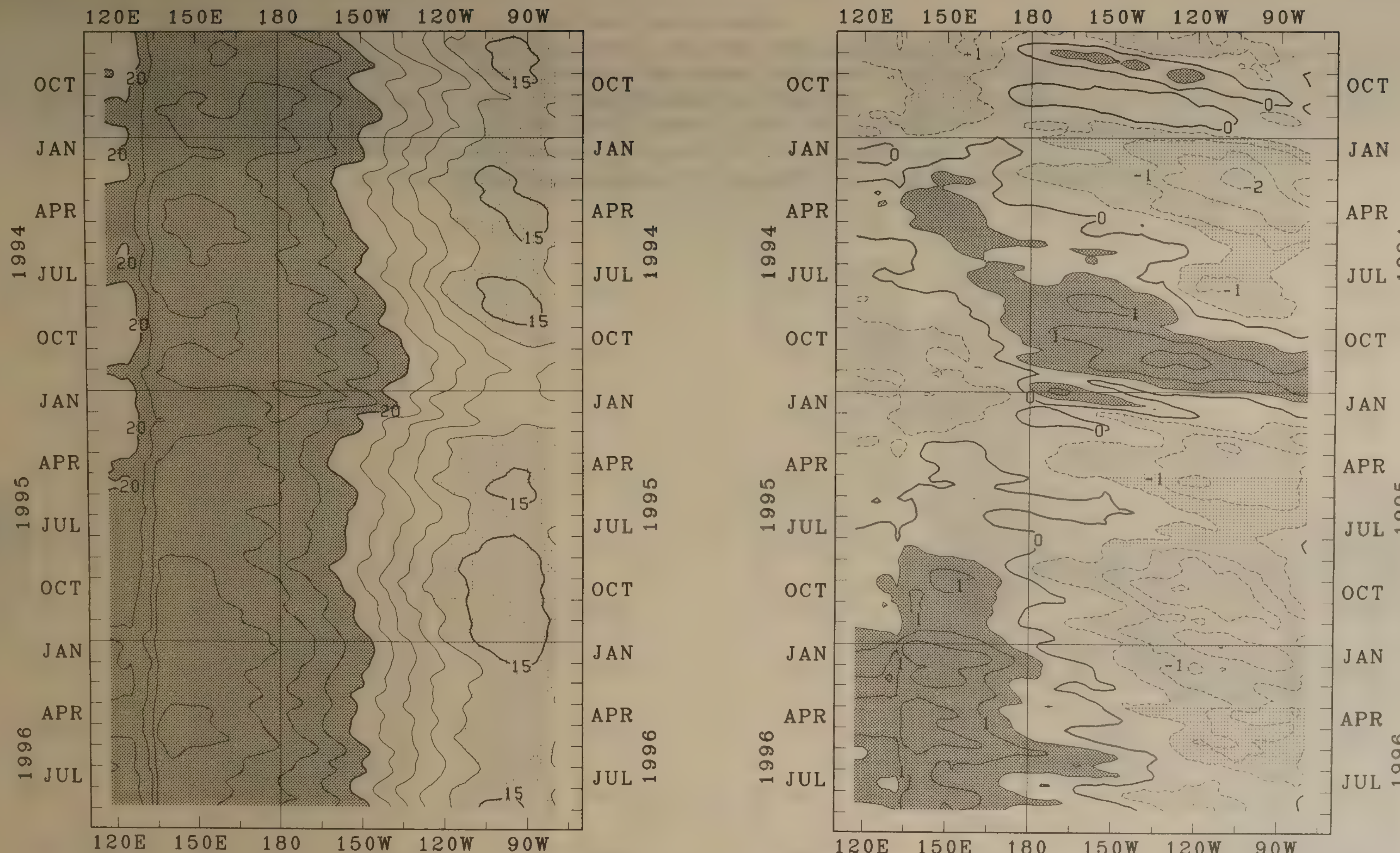
Time-Longitude Section of Ocean Heat Content & Anomalies (6N)




第17図　太平洋の北緯6度線に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig.17 Time-longitude sections of ocean heat content in the upper 260m along 6°N (left) and anomalies (right) in the Pacific Ocean. Data are derived from an Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

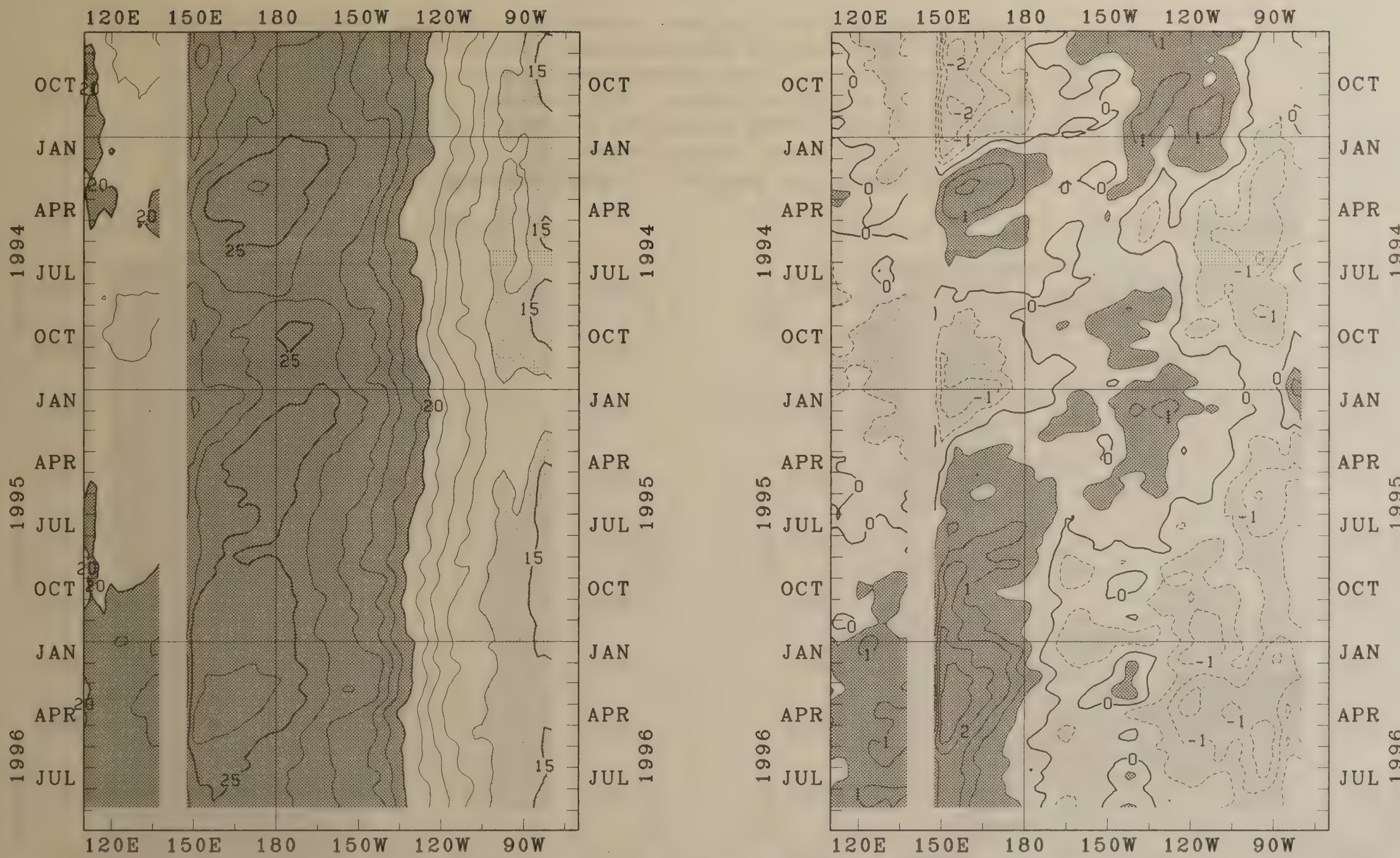
Time-Longitude Section of Ocean Heat Content & Anomalies (Eq.)




第18図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

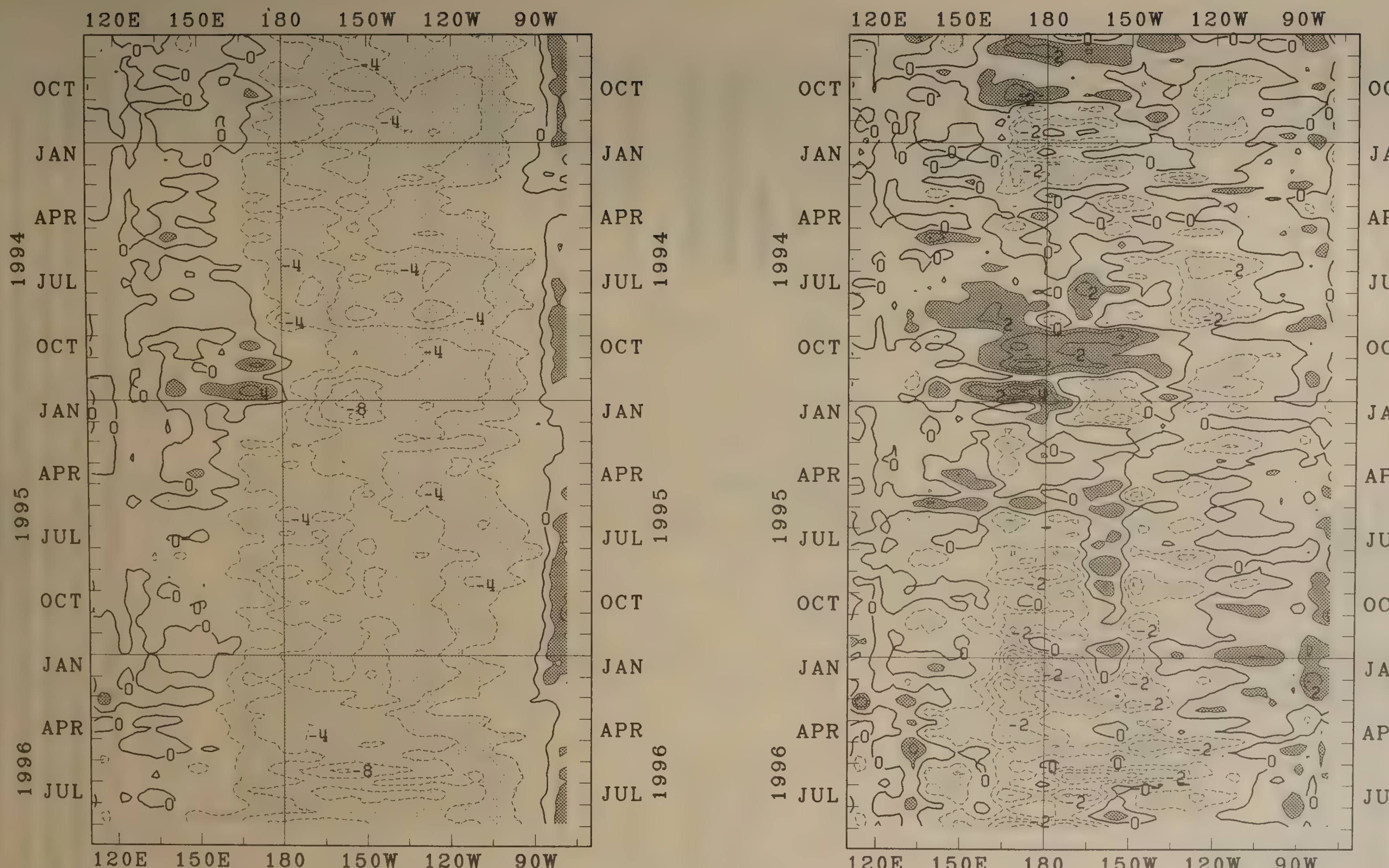
Fig.18 Time-longitude sections of ocean heat content in the upper 260m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

Time–Longitude Section of Ocean Heat Content & Anomalies (6S)



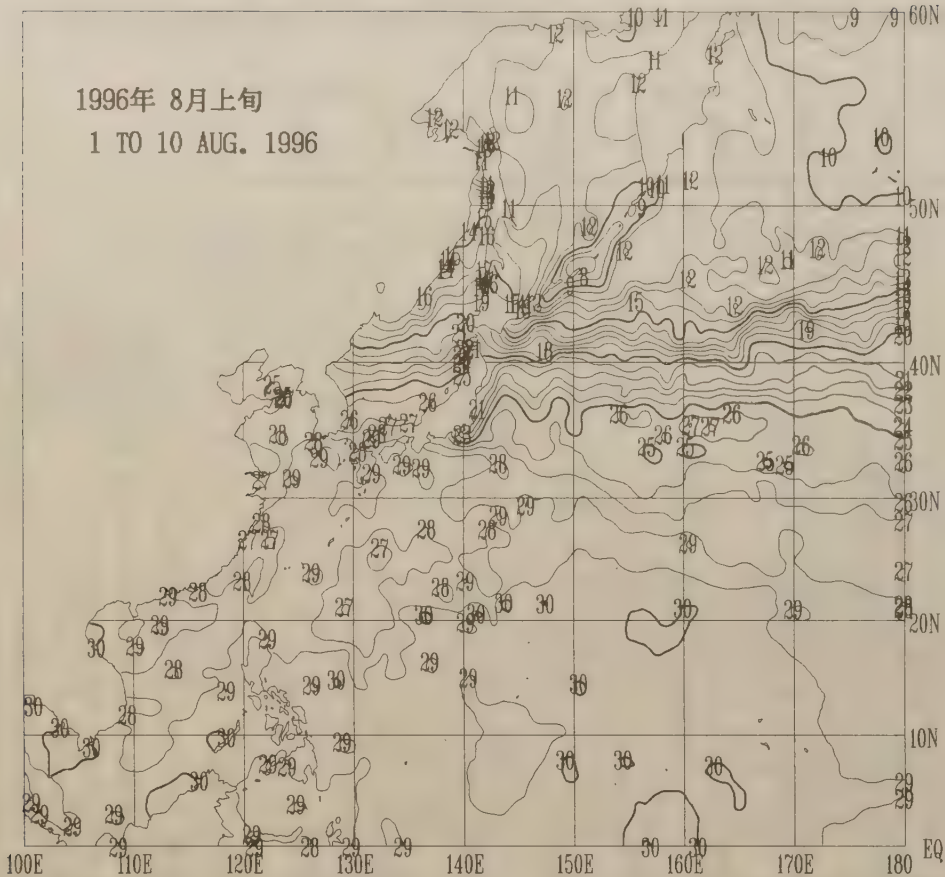

第19図　太平洋の南緯6度線に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図
Fig.19 Time-longitude sections of ocean heat content in the upper 260m along 6°S (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right) Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

Time–Longitude Section of Surface Zonal Wind Stress & Anomalies (Eq.)



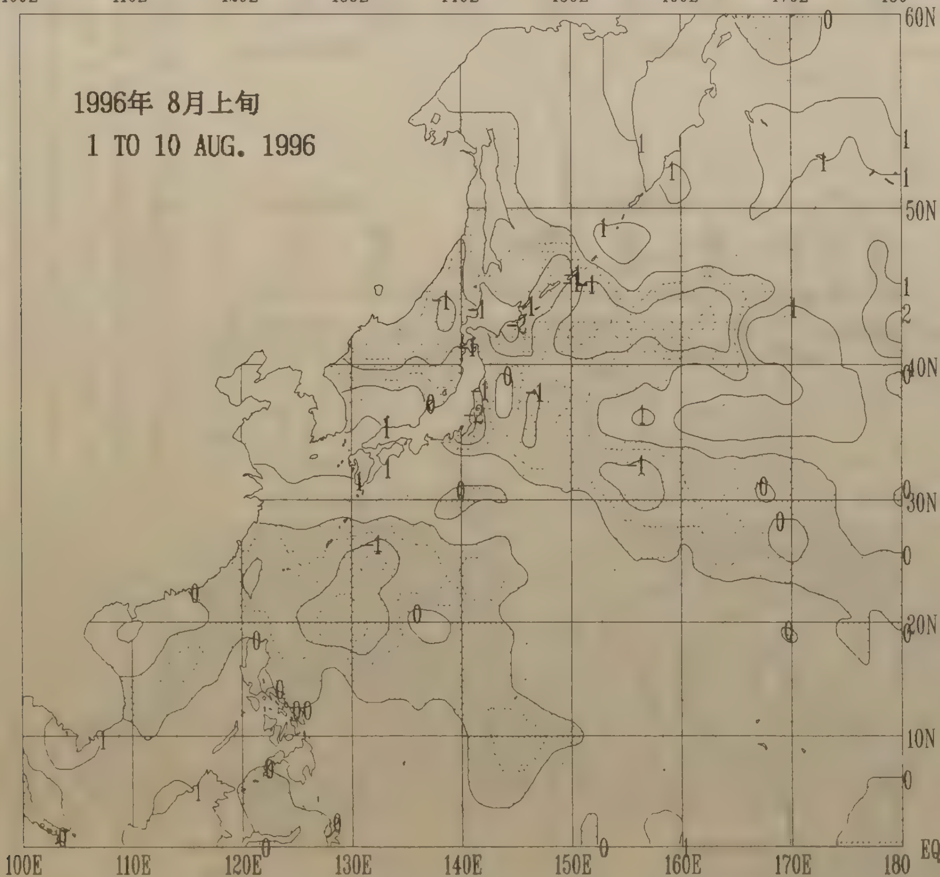

第20図　太平洋の赤道に沿う海面の風応力の東西成分（左）及び偏差（右）の時間－経度断面図

Fig.20 Time-longitude sections of surface zonal wind stress along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Atmospheric Global Data Assimilation System of JMA. Contour interval is 0.02N/m2 (left) and 0.01N/m2 (right). Dashed contours indicate easterlies (left) and easterly anomalies (right). Anomalies are computed from 1987-1995 base period means.




旬平均沿岸水温(℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石 垣(47918) | 27.2 | -1.9 |
| 御前崎(47655) | 25.6 | -0.3 |
| 八丈島(47678) | 25.6 | -1.1 |
| 小名浜(47598) | 18.7 | -1.7 |
| 宮 古(47585) | 18.5 | -0.1 |
| 江 差(47428) | 21.8 | - |
| 浜 田(47755) | 28.2 | - |




海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

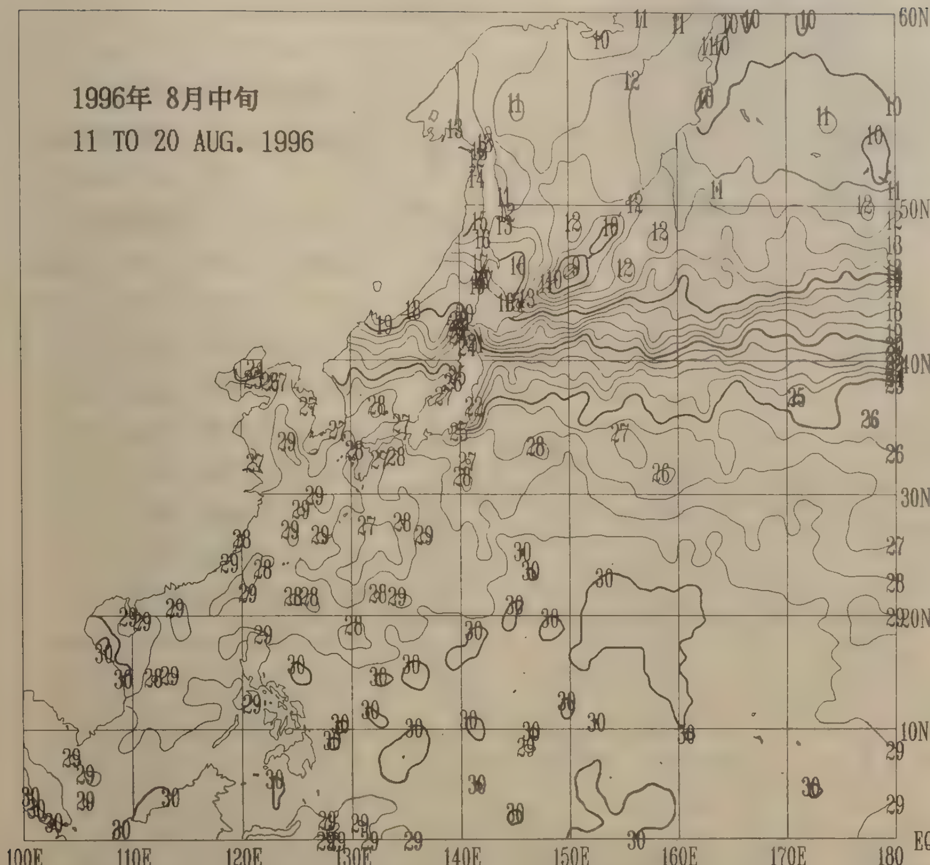
日本海 37.9N,134.5E
25.9

四国沖 29.0N,135.0E
28.5

東シナ海 28.2N,126.3E
28.7

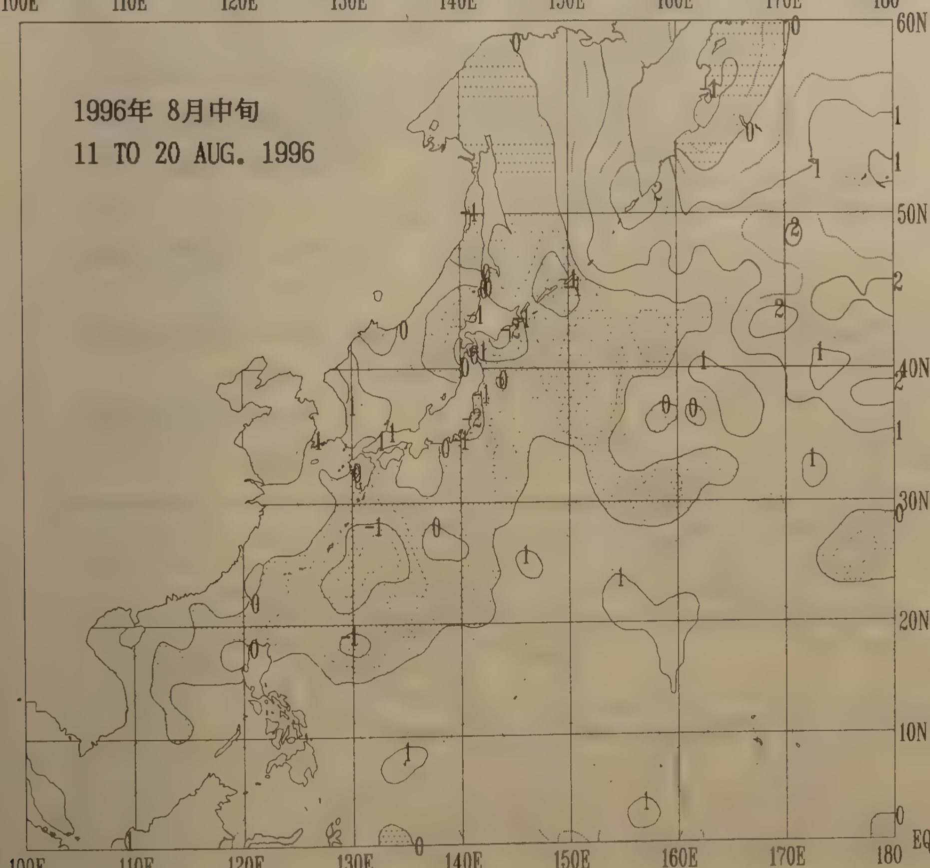
第21図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 8月上旬)

Fig.21 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 1st ten-day period in AUG 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.




旬平均沿岸水温(℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石 垣(47918) | 28.2 | -0.7 |
| 御前崎(47655) | 25.6 | -0.9 |
| 八丈島(47678) | 27.5 | 0.4 |
| 小名浜(47598) | 20.7 | -0.7 |
| 宮 古(47585) | 20.6 | 1.1 |
| 江 差(47428) | 24.2 | - |
| 浜 田(47755) | 27.5 | - |

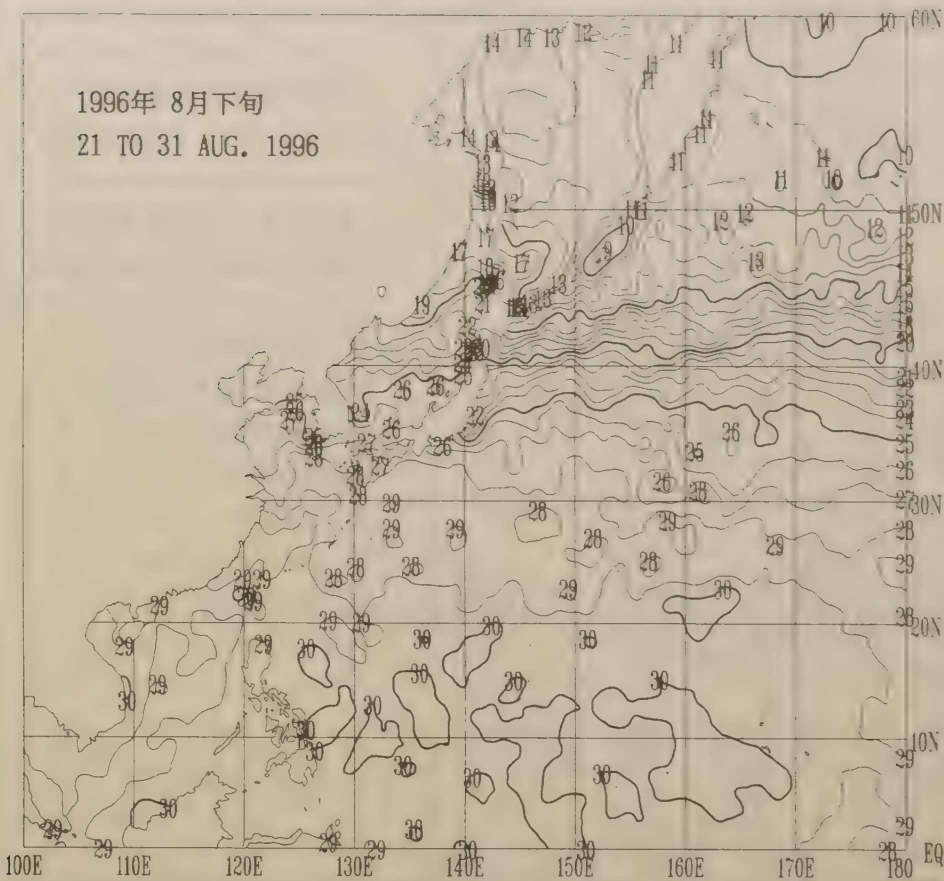



海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

| | |
|---|---|
| 日本海 37.9N,134.5E | 27.0 |
| 四国沖 29.0N,135.0E | 28.0 |
| 東シナ海 28.2N,126.3E | 28.6 |

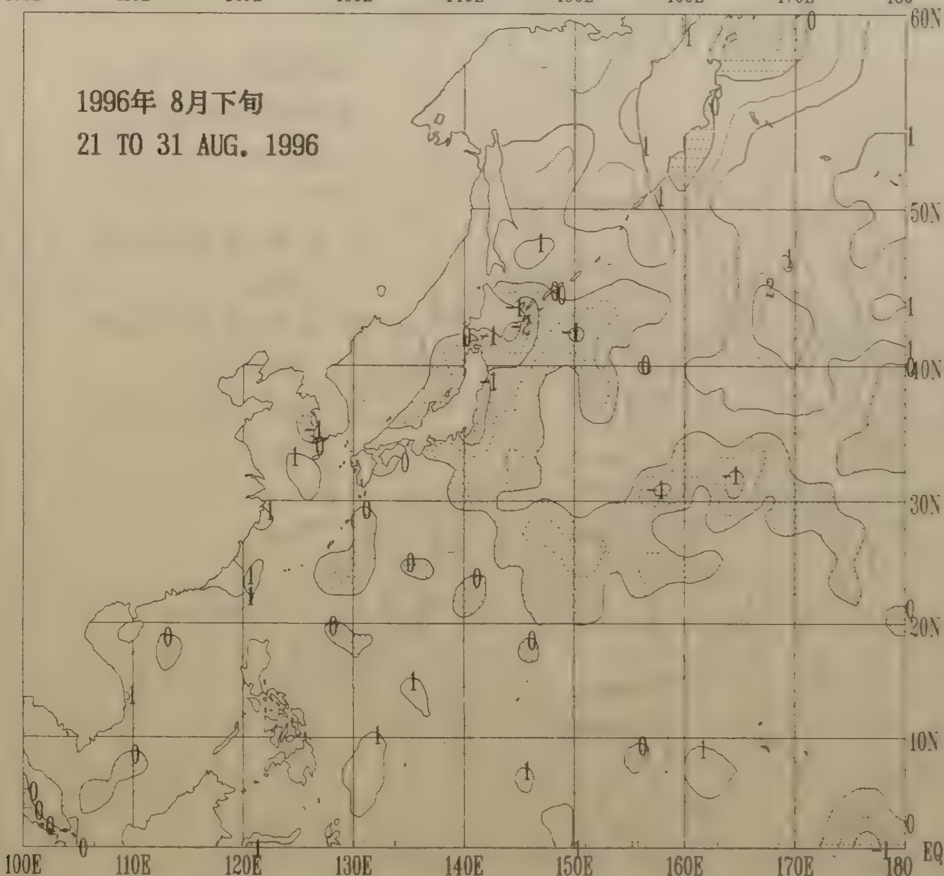
第22図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 8月中旬)

Fig.22 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 2nd ten-day period in AUG 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.




旬平均沿岸水温(℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石垣(47918) | 29.0 | 0.2 |
| 御前崎(47655) | 25.5 | -0.5 |
| 八丈島(47678) | 26.5 | -0.5 |
| 小名浜(47598) | 20.5 | -1.7 |
| 宮古(47585) | 20.6 | 0.7 |
| 江差(47428) | 23.1 | - |
| 浜田(47755) | 27.1 | - |

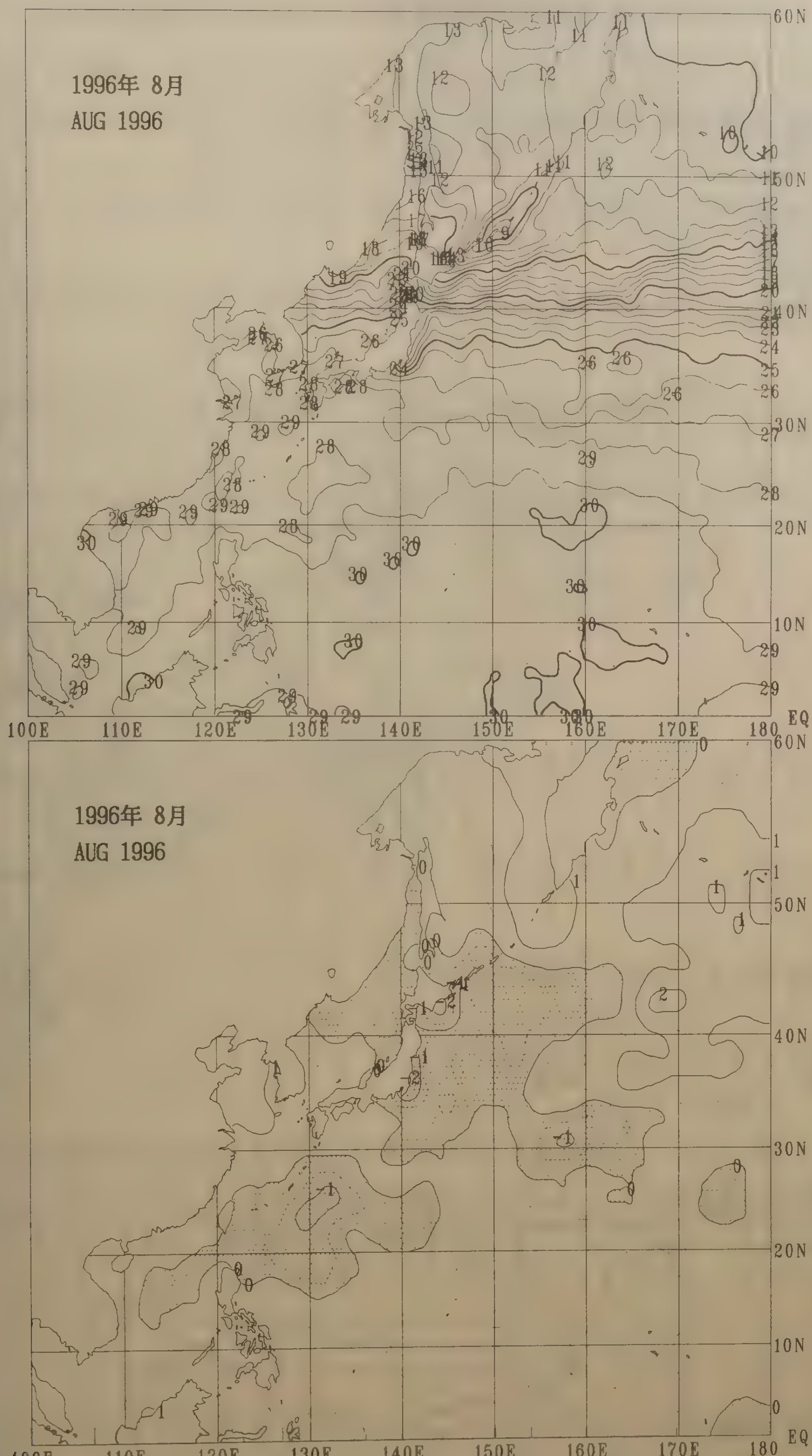



海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

| 地点 | 位置 | 水温 |
|---|---|---|
| 日本海 | 37.9N,134.5E | 26.1 |
| 四国沖 | 29.0N,135.0E | 28.8 |
| 東シナ海 | 28.2N,126.3E | 29.0 |

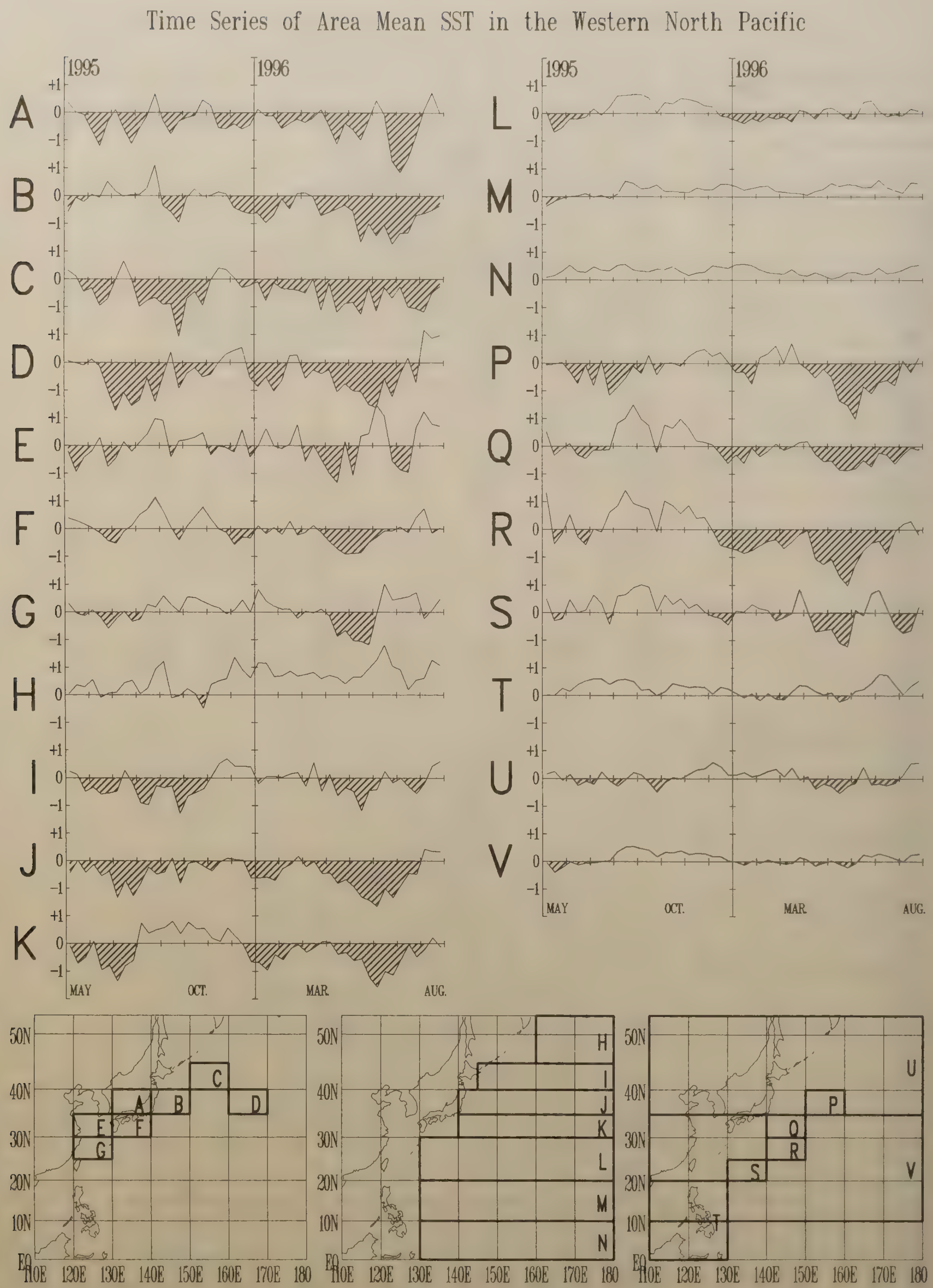
第23図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 8月下旬)

Fig.23 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 3rd ten-day period in AUG 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.




第24図 北西太平洋月平均海面水温図(上)及び偏差図(下)(1996年 8月)

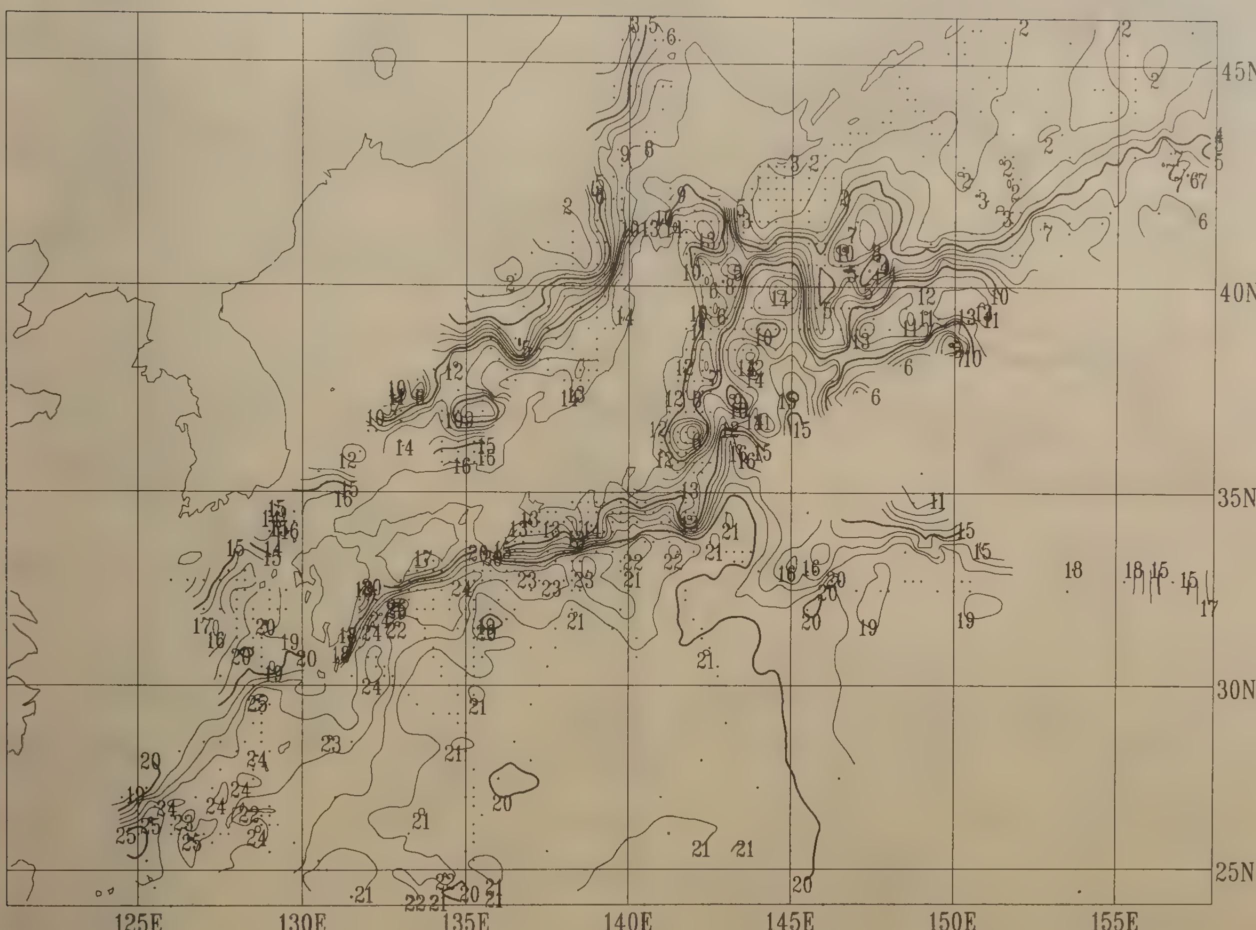
Fig.24 Monthly mean SSTs in the western North Pacific (top) and anomalies (bottom) for AUG 1996. Anomalies are computed from the JMA climatology (1961-1990). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.




第25図　北西太平洋旬平均海面水温平年偏差時系列図

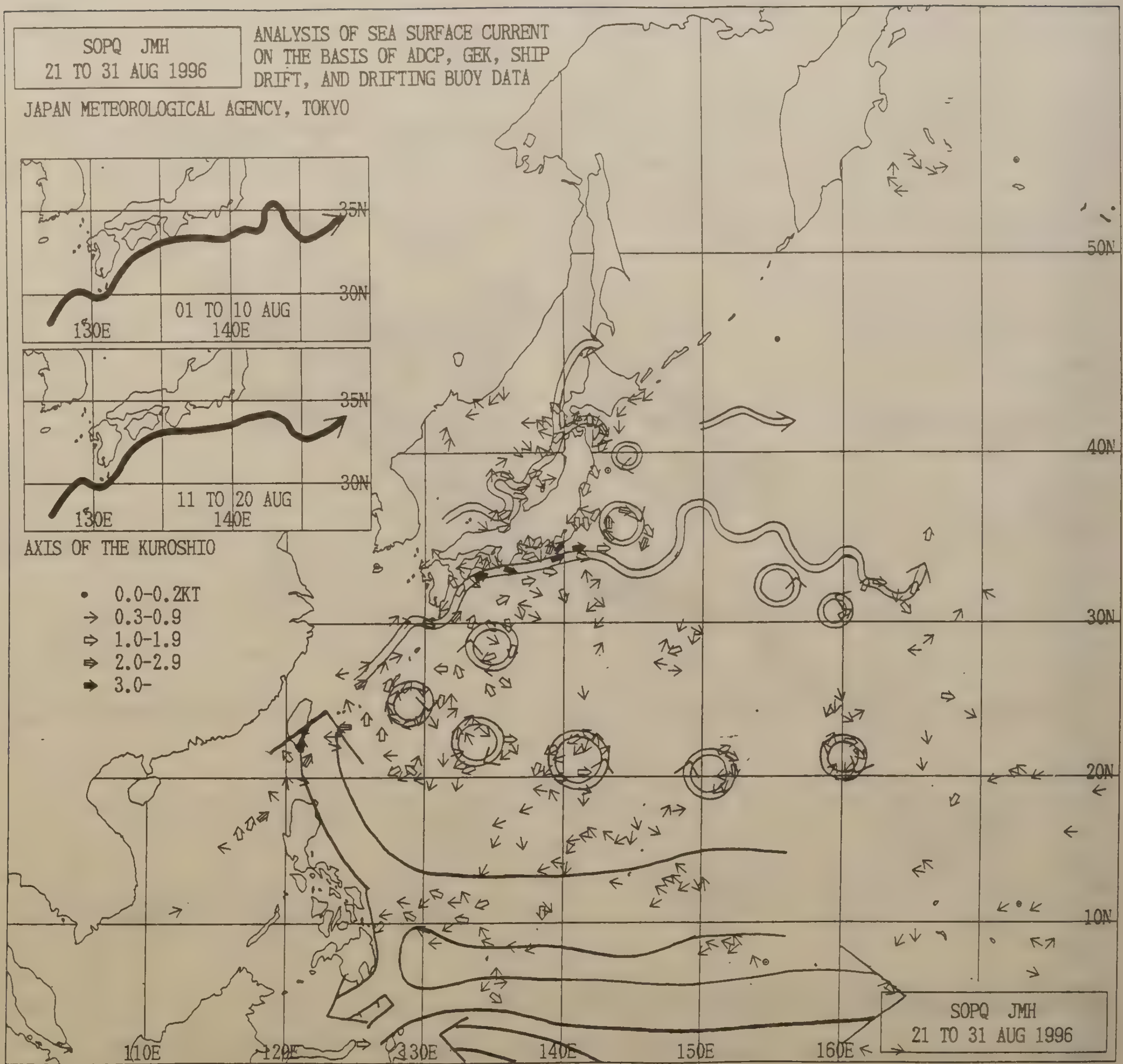
Fig.25 Time series of the ten-day mean sea surface temperature anomalies (°C) in the western North Pacific for the areas indicated at the bottom. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1961-90).

100m Temperatures in Seas Adjacent to Japan




第26図　日本近海表層水温(深さ100m)図 (1996年 8月)

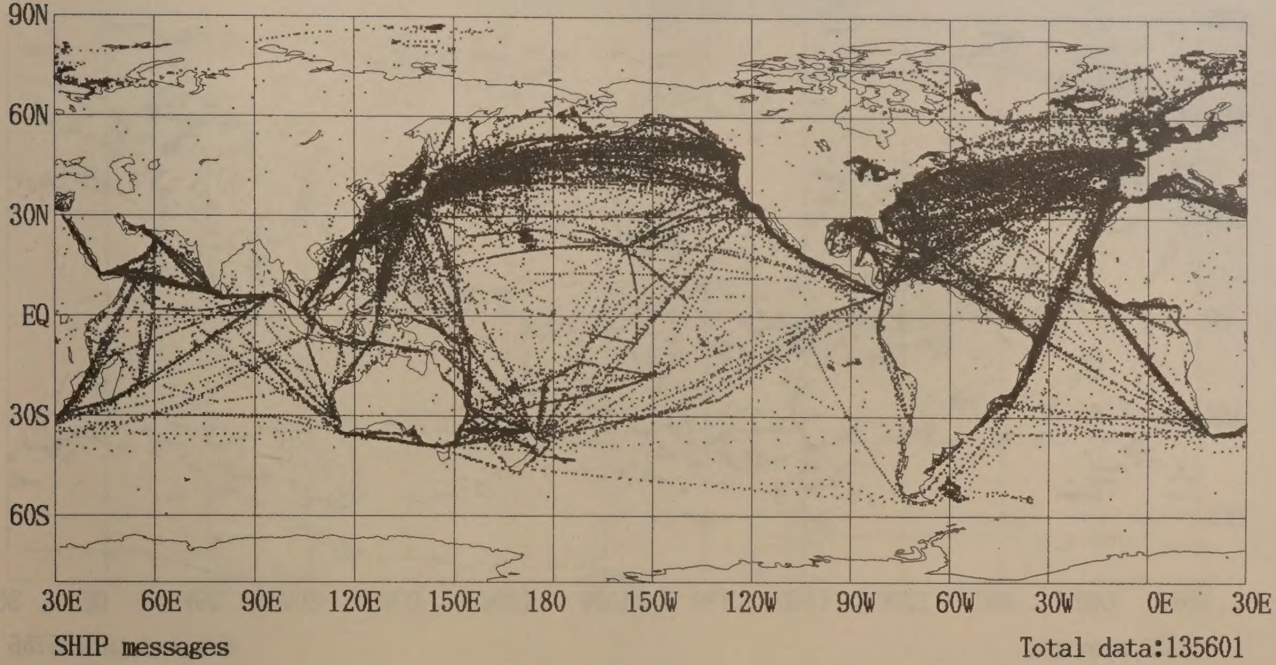
Fig.26 Subsurface (100m) temperatures in seas adjacent to Japan for AUG 1996. Contour interval is 1°C. Observation points are denoted by dots.

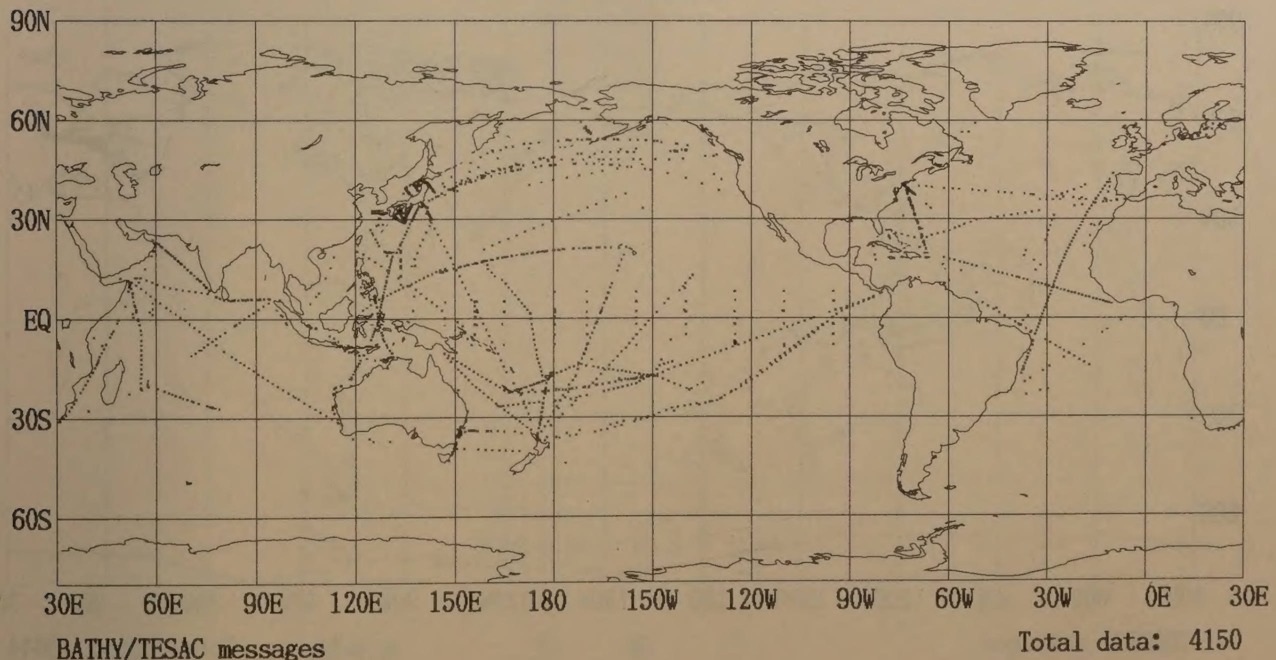



第27図　北西太平洋海流図（1996年 8月下旬）

Fig.27 Analysis of the sea surface current in the western North Pacific for the 3rd ten-day period in AUG 1996. Small arrows indicate sea surface currents measured with acoustic Doppler current profilers, GEKs deployed in research vessels, and ship drift by merchant ships/drifting buoys during the month. Major currents such as the Kuroshio and the North Equatorial Current are denoted by larger open arrows.

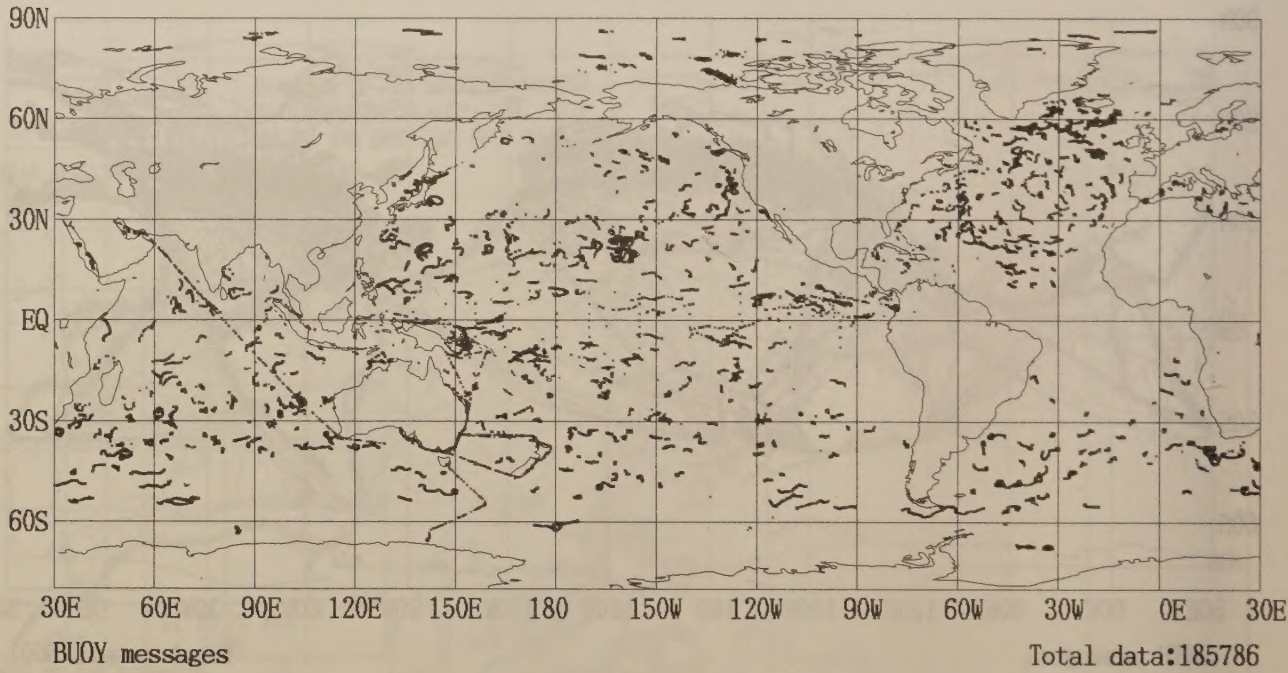
Geographical Distribution of Oceanographic Data

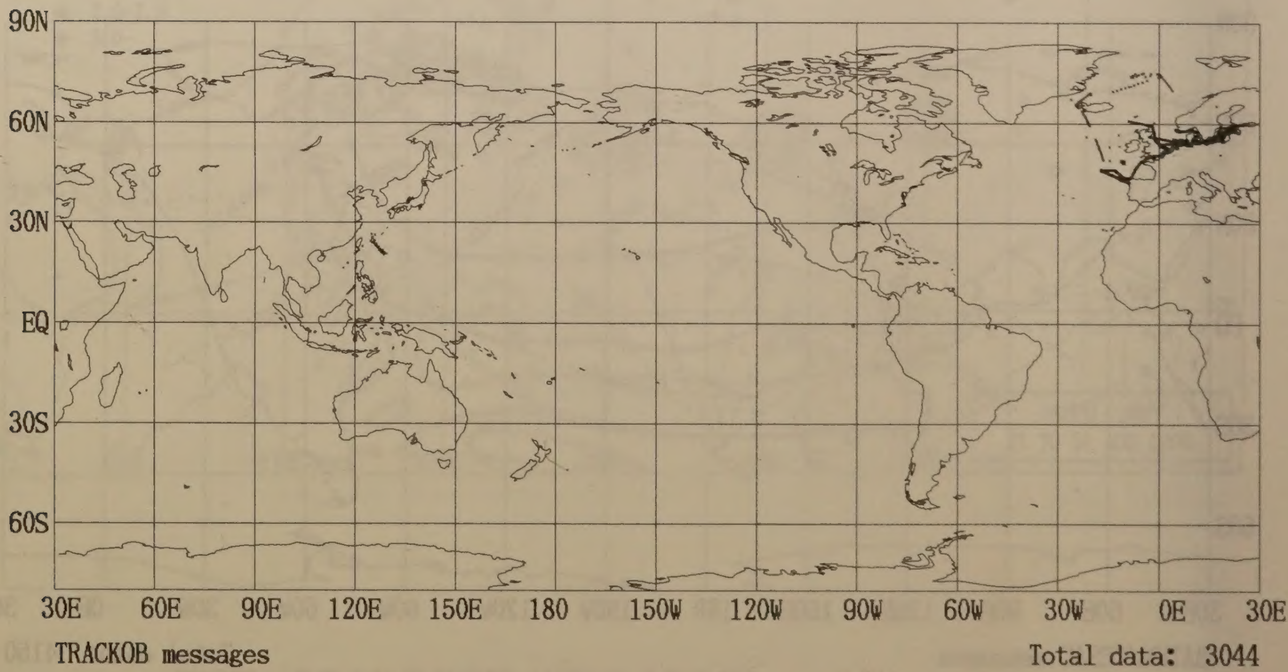



第28-1図　測点分布図(1996年 8月)

Fig.28-1 Geographical distribution of SHIP messages (SST data, top) and BATHY/TESAC messages (subsurface temperature data, bottom) for AUG 1996.




第28-2図　測点分布図(1996年 8月)

Fig.28-2 Geographical distribution of BUOY messages (buoy drift and SST data, top) and TRACKOB messages (ship drift and SST data, bottom) for AUG 1996.

# 気 象 庁 海 洋 月 報

## Monthly Ocean Report

August 1996 (No. 44)

平成８年９月２０日発行

編集兼 発行所　気　象　庁
東京都千代田区大手町１-３-４

印刷所　モリモト印刷株式会社
東京都新宿区東五軒町３-19